



Jemena



Our 2015 Plan

29 May 2014

Customer, stakeholder & community engagement

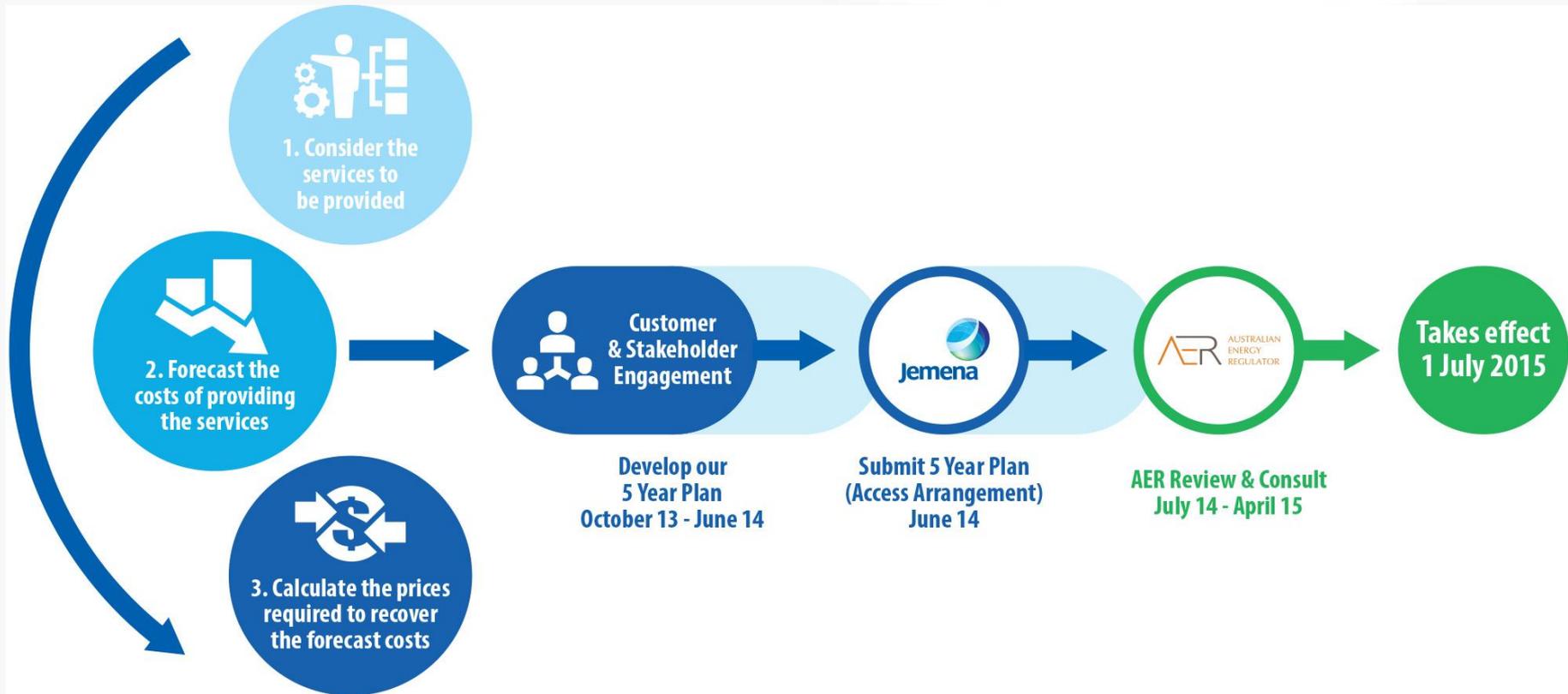
Engaging with our customers, stakeholders and community

Effectively responding to the changes in the gas market, and promote the long term interests of our customers ...



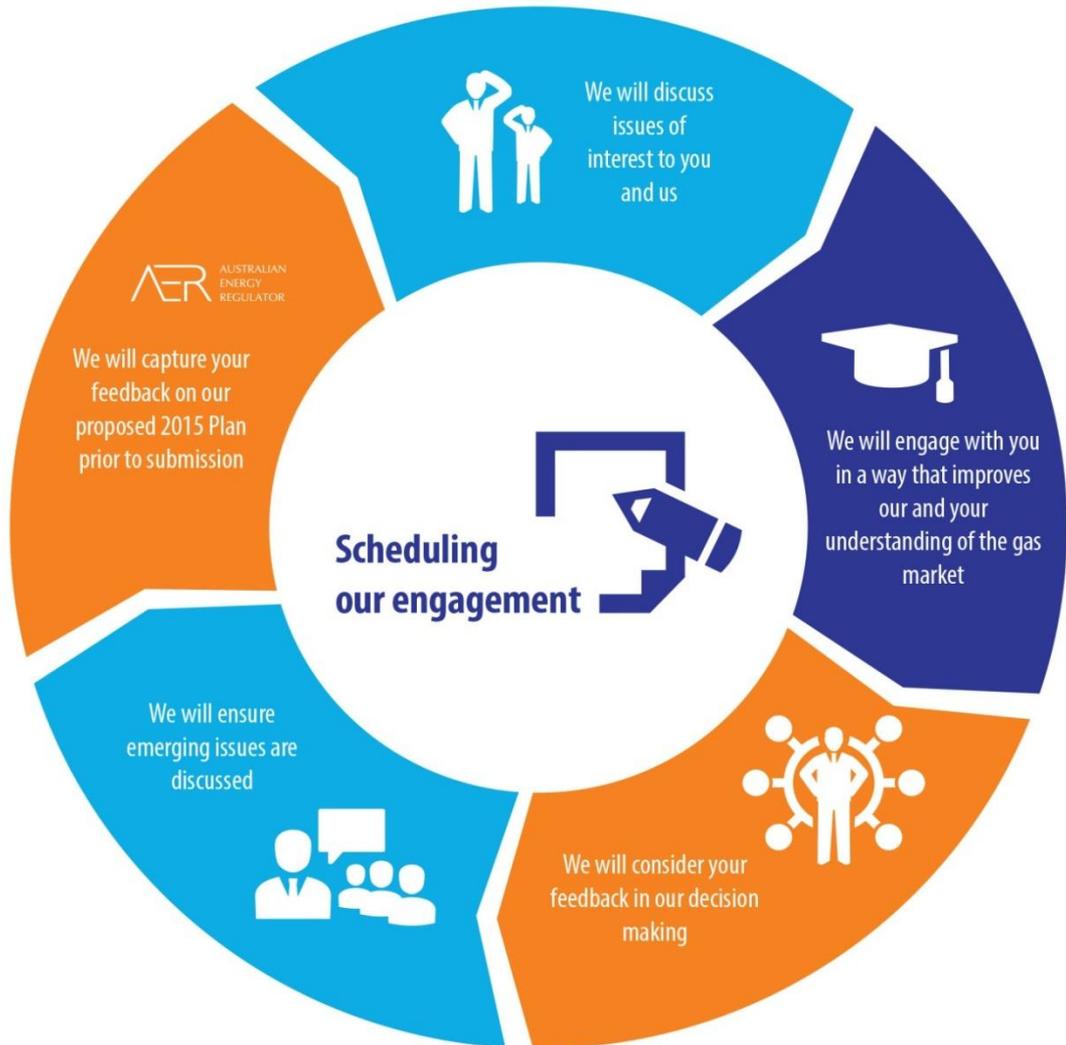
...requires us to understand the views and preferences of our customers and stakeholders

We committed to engaging with our customers and stakeholders as part of our 2015 Plan





Designing and scheduling our engagement

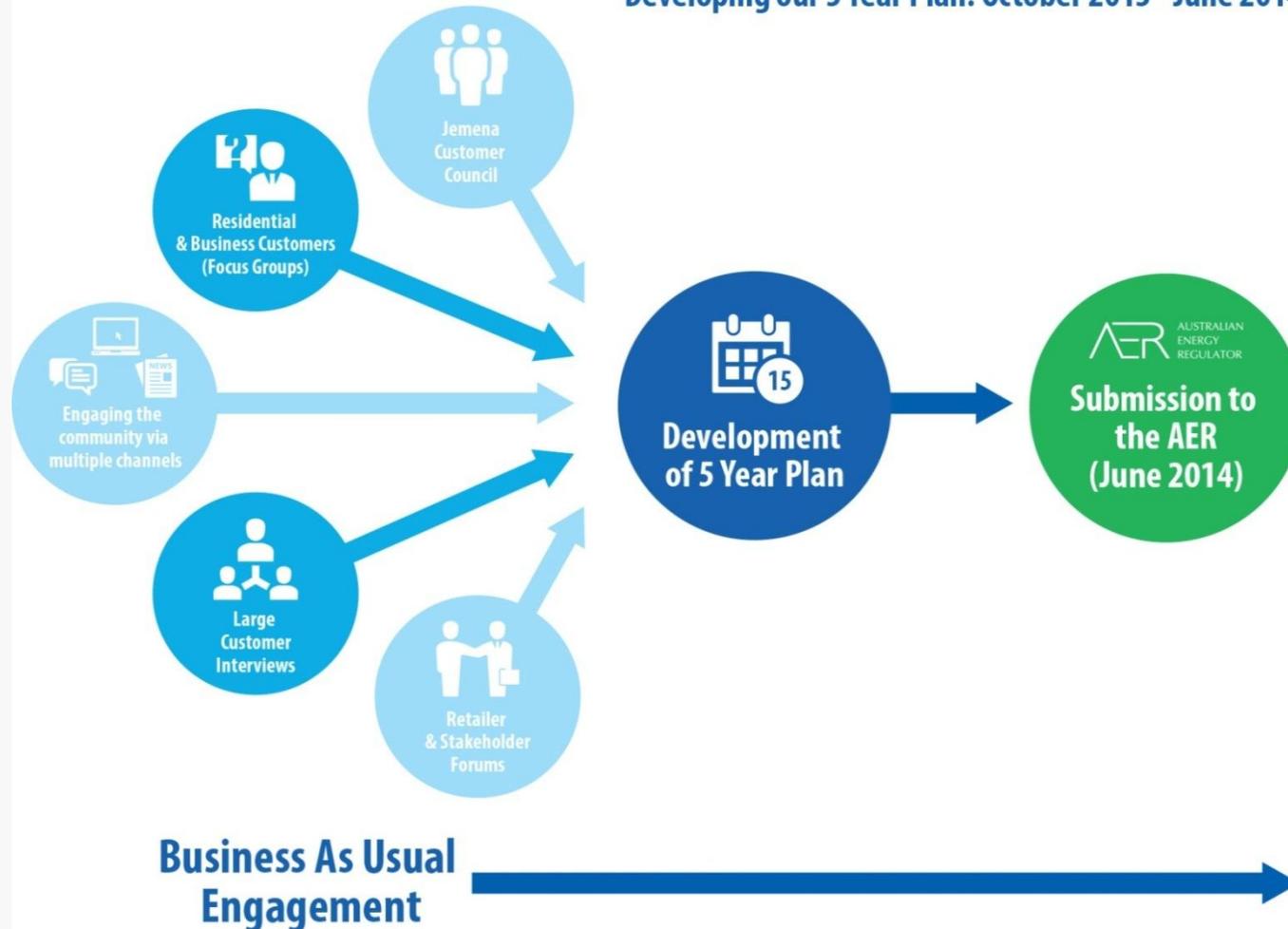


- **who** we should engage with
- **how** we should engage with them
- **what** we should engage them on and why
- **how** to schedule it to allow meaningful engagement
 - built the capacity of our ‘cohorts’
 - test their preferences
 - incorporate this into decision making
 - report findings and outcomes back to cohorts

We identified our customers and stakeholders, and the best way to engage with them

Jemena Engagement Approach

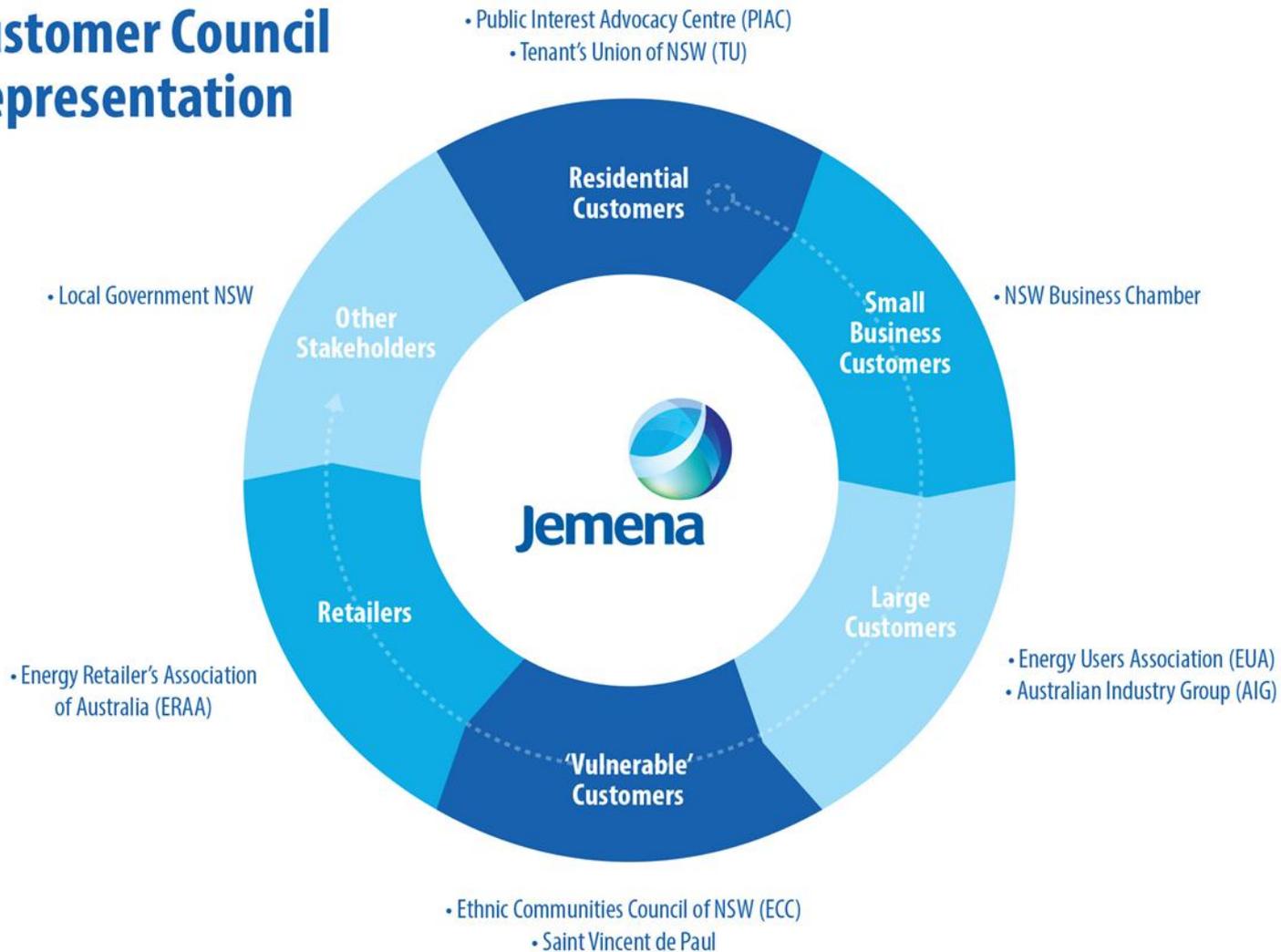
Developing our 5 Year Plan: October 2013 - June 2014





JGN Customer Council represents our key customers and stakeholders

Customer Council Representation





What issues did we discuss?

Engaging with representatives of our customers and stakeholders through the JGN Customer Council

- October 2013
 - Why we are here, role of the Customer Council (inform)
 - Discussion of interest areas (involve)
- December 2013
 - How gas prices are determined and where customers' money goes (inform)
 - Responding to changes in the gas market, including energy intermediaries and the customer experience (involve)
 - Measuring service performance (consult)
- February 2014
 - Funding our assets (inform)
 - The costs of providing gas services to our customers: trade-off between services and costs (consult)
 - Prices and tariff structures: How customers pay for using our gas network (consult)
 - Role of Jemena in assisting vulnerable customers (involve)
- May 2014
 - Overview of our customer and stakeholder engagement: What have we heard (inform)
 - Overview of JGN proposal (inform) including Consumer Overview and Tariff Structures Statement (consult)
 - Evaluating the effectiveness of our engagement (consult)



A representative sample of our 'small' customer base

Engaging with our residential and small business customers through our deliberative forums

- Sydney CBD (1 April 2014)
 - Objective: To engage directly with residential customers (including vulnerable customers) and small business customers living and working in inner Sydney and to test presentations and other materials for the subsequent forums
 - Attendees: 8; including 6 residential customers and 2 small business customers
- Orange (7 April 2014)
 - Objective: To engage directly with residential customers (including vulnerable customers) and small business customers living and working in regional NSW
 - Attendees: 17; including 15 residential customers and 2 small business customers
- Parramatta (9 April 2014)
 - Objective: To engage directly with residential customers (including vulnerable customers) and small business customers living and working in western Sydney
 - Attendees: 34; including 28 residential customers and 8 small business customers

What issues did we test?

Balance between safety, services and costs:

- *Have we got the ‘right’ balance or should we reduce service levels to provide cost savings for customers over the 2015-20 period?*

‘Price path’ over the period:

- *Should we consider end retail prices in setting our network price path?*

The structure of our prices:

- *Should we continue to keep our fixed network charges ‘low’, and should we simplify our prices?*





Issue # 1: Balance between safety, services and costs



Are our current levels of safety and service about 'right'?

- *Should we reduce service levels to provide cost savings for customers over the 2015-20 period?*

How did we test customers views on this balance?



We sought customers' views on the appropriate balance by asking them whether we should...

- 1 **Maintain current service levels and proactively pursue gas marketing and growth opportunities**
- 2 **Reduce current service levels for the longer term**
- 3 **Reduce current service levels in the short term**
- 4 **Maintain current service levels but scale back pursuit of gas marketing and growth opportunities**
- 5 **Equalise service levels for all existing customers**

What did our customers tell us?

Issue we tested	What we heard
<p>Safety and Services</p> <p>Should we:</p> <ul style="list-style-type: none"> maintain safety as our non-negotiable top priority? retain current service levels (option 1), decrease them (options 2-4) or improve them (option 5)? 	<p>Overall, a large majority (87%) indicated that current balance between safety, services and prices was 'right'.</p> <p>Overall, there was strong support for:</p> <ul style="list-style-type: none"> maintaining safety as our non-negotiable top priority retaining the current service levels (option 1), or improving service levels for specific customers to provide a universal level of service (option 5) <ul style="list-style-type: none"> residential customers, both within the metropolitan area and in regional areas, strongly supported Option 5, whereas small business customers were more likely to support Option 1 however, overall there was more support for Option 5 <p><i>"Safety is the most important – for myself and for the community"</i> (residential customer, Parramatta forum, 9 April 2014)</p> <p><i>"I think that safety is a no-brainer that should go without saying"</i> (residential customer, Orange forum, 7 April 2014)</p> <p><i>"There should be the same service for everyone"</i> (residential customer, Parramatta forum, 9 April 2014)</p>



Overall what did our customers tell us?



Issue we tested	What we heard
<p>Overall 2015 Plan</p> <ul style="list-style-type: none">• Do we have a sensible plan for the future?• What mark would you give us for our 5 year plan?	<p>Overall:</p> <ul style="list-style-type: none">• 76% of customers thought we had sensible plan for the future,• 54% of customers rating the 2015 Plan as an 'A' (A+, A or A-). <p><i>"Common sense may rule in the end"</i> (residential customer, Parramatta forum, 9 April 2014)</p> <p><i>It's good they're trying to make up for rises in the other 50%."</i> (residential customer, Sydney CBD forum, 1 April 2014)</p>





Large customers: What did we discuss?



Engaging with our large customers through one-on-one interviews

- Largest industrial customers (December 2013 – May 2014)
 - Objective: To engage directly with large industrial customers on key issues of interest to them and to test our thinking on several aspects of services and pricing
 - Attendees: 17 invited, 14 interviews
- Topics discussed:
 - Forecast demand over 2015-20 period (involve)
 - Pricing, including access to First Response Tariff and resetting levels of Chargeable Demand (consult)
 - Engagement preferences (consult)





Retailers and network users: What did we discuss? Jemena

Engaging with our retailers and network-users

- Forums with retailers and network users (March 2014 – May 2014)
 - Objective: To engage directly with retailers and network users on issues of interest to them and to test our thinking on several aspects of services and pricing
- Topics discussed:
 - Simplifying our services, tariffs and charges (including disconnection charges) (consult)
 - New tariff classes and likely price levels (inform)
 - Changes to our legal agreement that sets out rights and obligations (Reference Service Agreement) (inform)



Engaging with key stakeholders

- One-on-one discussions with key stakeholders and network users (December 2013 – May 2014)
 - regulators (Australian Energy Regulator, Independent Pricing and Regulatory Tribunal of NSW (IPART))
 - Australian Energy Market Commission
 - NSW Government
 - Australian Energy Market Operator
 - Energy intermediaries
- To inform key stakeholders of key issues and our thinking on the 2015 Plan
- To consult on key issues including simplifying our services and prices, new tariff classes and likely price levels, unaccounted for gas (UAG)





Engaging with the broader community



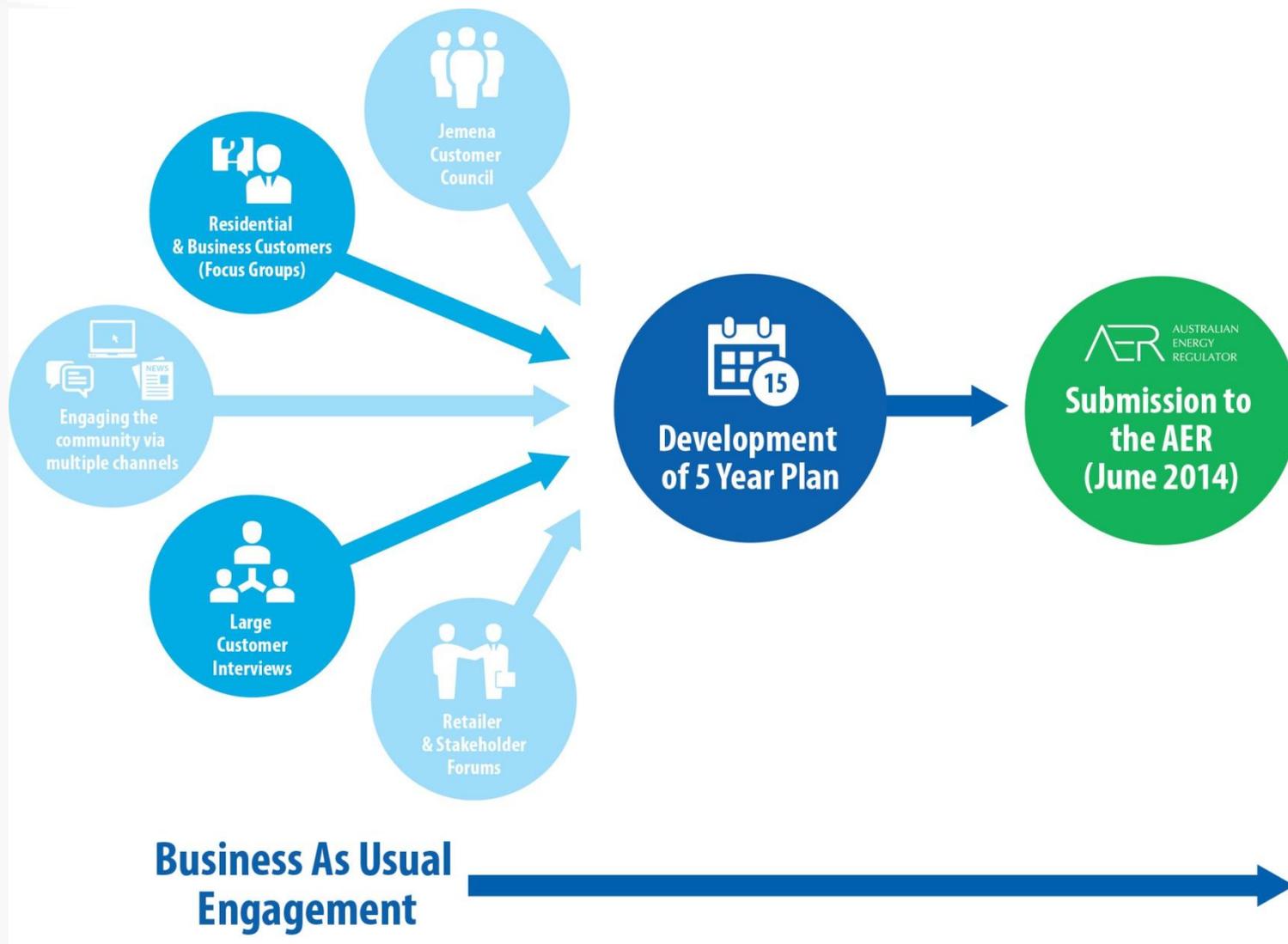
- We redesigned our web-pages to be an accessible and cost-effective way of engaging with the community:
 - Background information - the gas supply chain, our role and the role of the AER
 - Our community engagement activities, including the presentations we have provided to the JGN Customer Council, and what we have heard from our customers
 - How customers can have their say on the key issues that are important to them:
haveyoursay@jemena.com.au
 - How customers can stay informed by receiving email updates



Jemena is committed to engaging with the community.



So what have we heard overall through our engagement?





Balancing safety, services and costs: What did we hear?

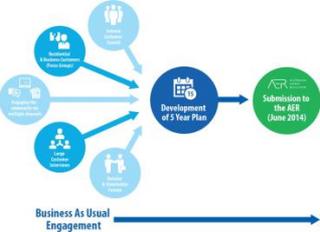


Issue	What we heard	Who told us
Safety and services	<p>Customers told us they:</p> <ul style="list-style-type: none"> • support safety being our non-negotiable top priority • value network service reliability and responsiveness, and are generally satisfied with our current service levels • think all customers should receive the same service levels for the same prices (universal level of service) 	<ul style="list-style-type: none"> • JGN Customer Council • residential and small business customers



Cost efficiency: What did we hear?

Issue	What we heard	Who told us
Cost efficiency	<p>Customers told us they:</p> <ul style="list-style-type: none"> want us (and other gas market players) to focus on improving the cost efficiency of gas services see the benefit to us and them in attracting new customers to the gas network to help ensure the overall retail price of gas remains competitive compared with other fuels 	<ul style="list-style-type: none"> JGN Customer Council residential and small business customers



Recovering our costs over the period: What did we hear?



Issue	What we heard	Who told us
<p>Recovering our costs over the 2015-20 period</p>	<p>Customers told us they:</p> <ul style="list-style-type: none"> are concerned about the affordability of gas, which depends on the overall end-retail price not just JGN's distribution prices are concerned about future increases in wholesale gas costs and end-retail prices want us to consider the end-retail price when setting our prices to promote stability in this price over the next 5 years (and prevent retail price shocks) 	<ul style="list-style-type: none"> JGN Customer Council residential and small business customers



Our prices and charges: What did we hear?



Issue	What we heard	Who told us
<p>Our prices and charges</p>	<p>Customers told us they:</p> <ul style="list-style-type: none"> see fixed charges as a barrier to gas connection and a disincentive to improving their energy efficiency would value us resetting our charges for large industrial customers ('levels of Chargeable Demand') to better reflect their use of the network 	<ul style="list-style-type: none"> residential and small business customers JGN Customer Council large industrial customers



Improving the ability of customers to participate in energy markets: What did we hear?



Issue	What we heard	Who told us
<p>Improving the ability of customers to participate in energy markets</p>	<p>Customers and stakeholders told us they would value:</p> <ul style="list-style-type: none"> greater simplicity in our pricing, so it is easier to understand the different components of their energy bill, compare end-retail price offers and identify how their prices may change in future transparency in the way we make pricing decisions today and in the future us bringing forward the timing of our annual changes to network pricing to give retailers more time to prepare market offers, and allow customers more time to shop around and compare retail offers access to individual metering and billing and their choice of energy retailer, and want all customers to have this access 	<ul style="list-style-type: none"> residential and small business customers JGN Customer Council retailers and other stakeholders (IPART)



Assisting vulnerable customers: What did we hear?



Issue	What we heard	Who told us
Assisting vulnerable customers	<p>Customers told us they:</p> <ul style="list-style-type: none"> want us to do more to assist vulnerable customers manage their energy bills, particularly helping them with the upfront costs of upgrading gas appliances want us to advocate on behalf of customers to ensure energy markets “work better” for vulnerable customers 	<ul style="list-style-type: none"> JGN Customer Council residential and small business customers



Questions?

Submission overview



Our 2015 Plan | Key themes



- Responds to changes occurring in the gas market
- Is built on the feedback and knowledge gained through our customer and stakeholder engagement
- Is long term in its focus (beyond current regulatory period)
- Promotes the long term interests of our customers
 - Safety and service levels that customers value
 - Puts downward pressure on retail gas prices and supports further customer growth and cost efficiency
 - Prices efficiently, equitably and sensibly
 - Supports improved customer participation in energy markets, and supports vulnerable customers



Our 2015 Plan: Costs



- Customer feedback:
 - Focus on efficiency, put downward pressure on retail prices
 - Attract new customers to lower average costs
- Our 2015 Plan:
 - Passes on lower funding costs
 - Includes a 5% efficiency saving over the period and reduction in operating expenditure
 - Proposes an Efficiency Benefit Sharing Scheme (EBSS) to incentivise further efficiencies
 - Involves attracting over 150,000 new customers
 - Resulting in reductions in average cost per customer

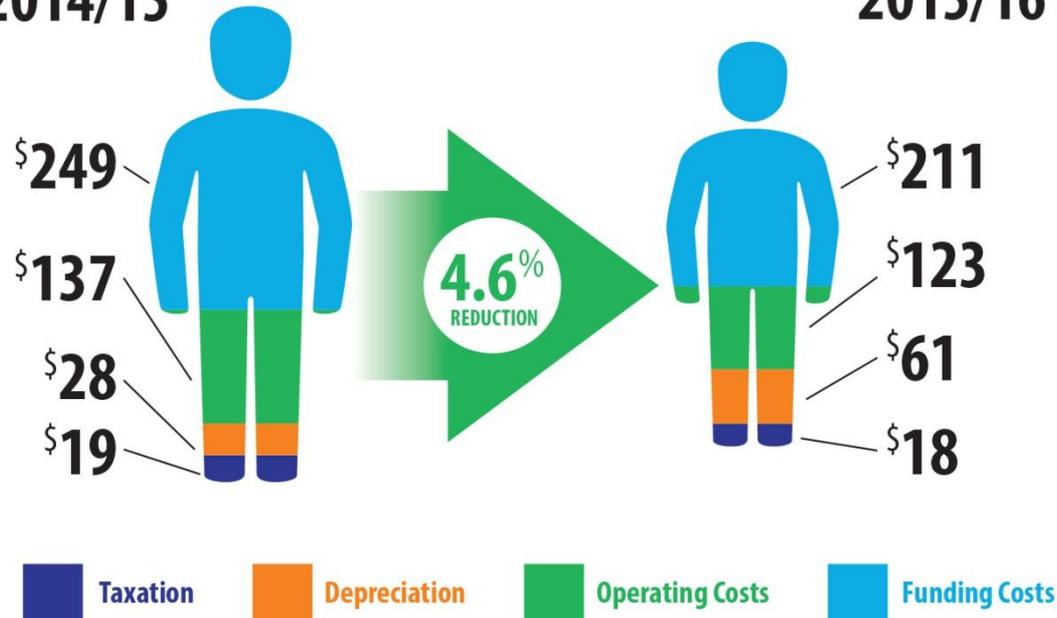
Our 2015 Plan: Lower costs per customer

- Our annual 'building block' cost per customer will decrease by 4.6% from \$433 to \$413
 - Lower funding costs (8.67%, down from 10.41%)
 - Increased customers (more than 150,000 new customers)

Changes in our required revenue per customer per year (\$ 2015)

2010/11 - 2014/15

2015/16 - 2019/20



Source: Jemena, real expenditure \$ 2015, 2016-20



Our 2015 Plan | Prices



	2015-16	2016-17	2017-18	2018-19	2019-20
Proposed price path (Real)	-4.00%	-2.70%	-2.70%	-2.70%	-2.70%
Indicative price path proposed by NSW electricity networks (real)					
Ausgrid	-0.40%	-0.07%	-1.43%	-1.22%	
Endeavour Energy	-1.25%	-1.25%	-1.25%	-1.25%	

Residential

-20% **\$271**
Over 5 years

Commercial

-11% **\$5,090**
Over 5 years

Industrial

+13% **\$40,700**
Over 5 years



Our 2015 Plan | Submission structure

- Customer overview document
- Customer fact sheets
- Volume 1: AAI, AA and RSA and non-confidential AAI appendices
- Volume 2 to Volume 4: AAI appendices, including confidential appendices
 - where appropriate, public versions of the appendices will be produced for posting to JGN's website
 - submission models will form part of the AAI appendices





Our 2015 Plan | AAI structure

#	Chapter	Appendices
1	Introduction	Revisions to AA and RSA Statement of interdependencies Customer engagement program Tariff structures statement Confidentiality claim
2	Jemena Gas Networks	None
3	Pipeline Services (classification of services)	None
4	Current period performance	JGN's pipeline service delivery model Expert reports on productivity and opex output growth (Economic Insights)
5	Demand	Expert report and model on demand forecast (Core)
6	Capex	Asset management plans, strategies and costing policies Capex and escalation models Various expert reports on cost estimation Detailed forecast expenditure reports



Our 2015 Plan | AAI structure

#	Chapter	Appendices
7	Operating expenditure	Opex model and forecasting method Step changes report UAG report and data Debt raising costs
8	Capital base	None
9	Rate of return	WACC model Expert reports on cost of debt and equity Detailed explanations of our proposal
10	Cost of tax	Gamma proposal and expert reports
11	Incentive mechanisms	None
12	Total revenue and price path	JGN Post Tax Revenue Model
13	Reference tariffs	How our tariffs meet the rule requirements Tariff structures statement
14	Annual reference tariff variation	None
15	Pass through events	None

Questions?

Operating expenditure

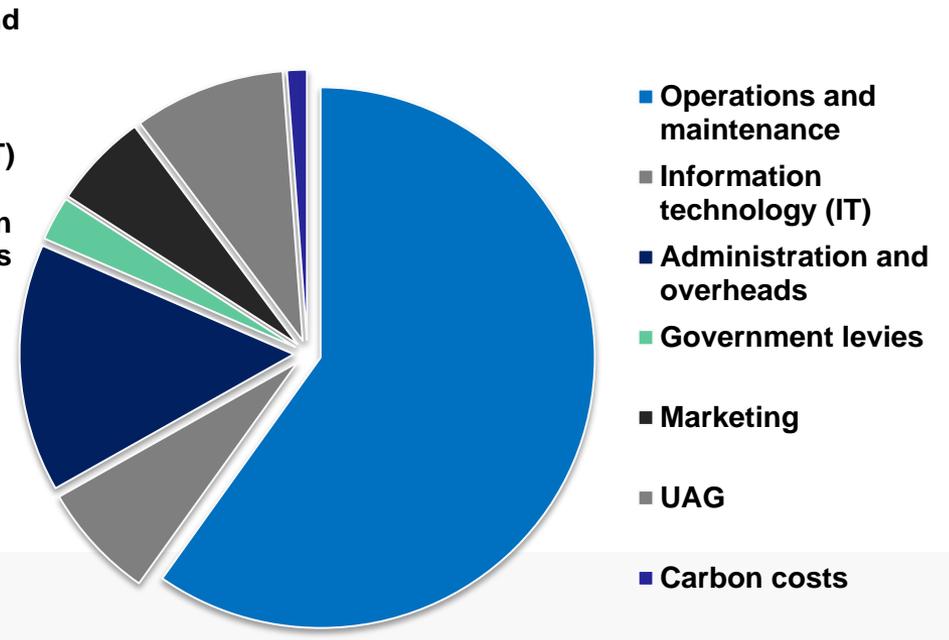
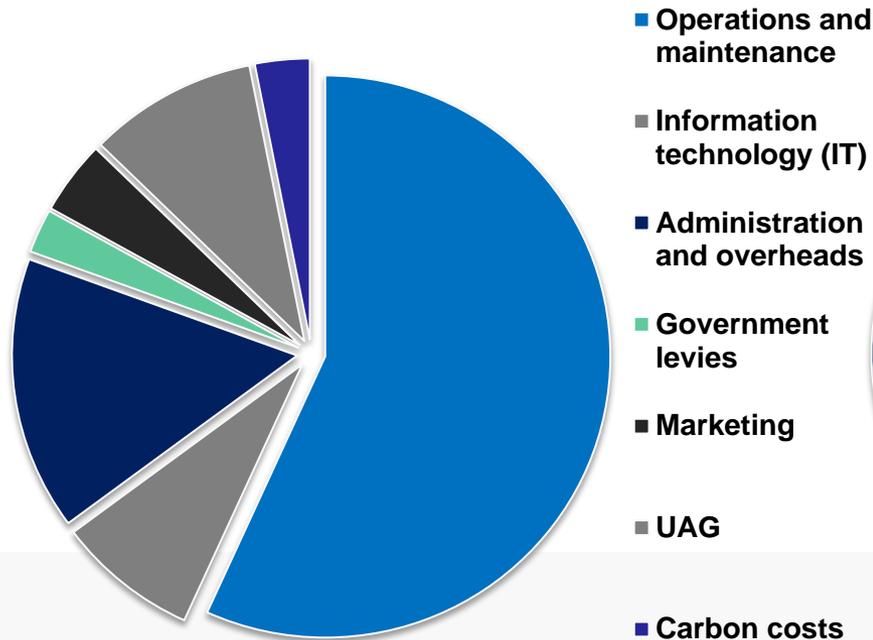


Our 2015 Plan: Expenditure forecasts

Operating expenditure will decrease from 2010-15 levels

RY11-15 Actual/Forecast - **\$802M** (Real 2015 dollars)

RY16-20 Preliminary - **\$797M** (Real 2015 dollars)

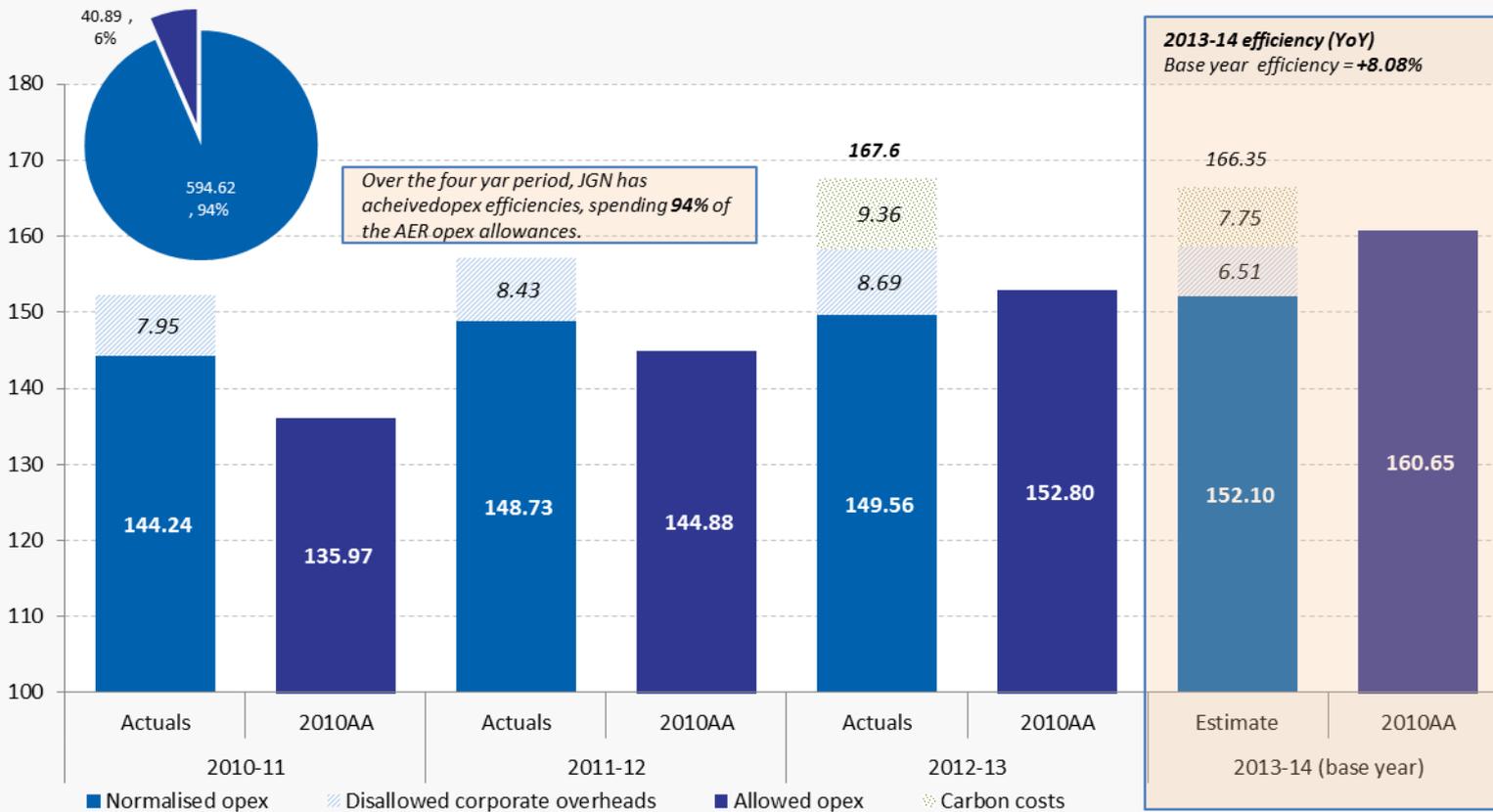


Source: Jemena, real expenditure \$ 2015, 2016-20



Current period performance

- Over the four year period, JGN expects to achieve material opex efficiencies against the AER allowances.



Notes:

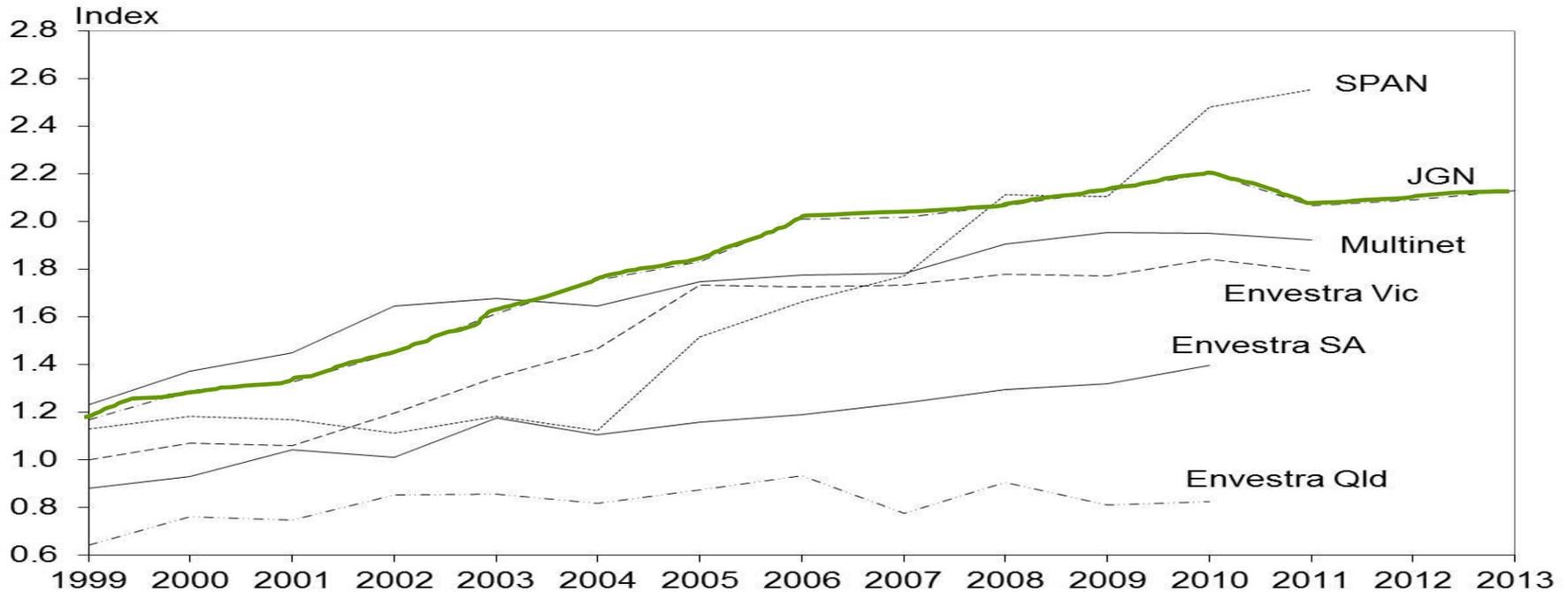
- 1) Normalised opex = raw opex – carbon costs – disallowed corporate overheads.
- Carbon costs were not included in the AER approved opex allowances, but as a pass-through item.
- Some corporate overheads were disallowed by the AER.
- Jemena Electricity Networks (JEN) had the same costs disallowed by the AER, but was successful in its merits review appeal in 2012, with the tribunal allowing for these costs in its opex allowances.
- YoY means year-on-year

Source: JGN, AER allowances.



Opex efficiency | against peers

Australian GDB Multilateral Opex PFP indexes, 1999–2013



Source: Economic Insights GDB database, JGN (highlighted line)

- Over the period 1999 to 2013, Economic Insights concluded that:
 - JGN was a good performer in terms of opex PFP levels and growth rates and it has had similar TFP levels to two of the three Victorian gas distribution businesses (GDB).
 - JGN had the highest or second highest level of opex multilateral partial productivity for the last 15 years. JGN's opex PFP increased by over 80 per cent over this period.



Forecasting methodology

- **Base, step and trend approach**—applied to the overall opex amount within the adjusted base year*, net of opex cost categories that are subject to specific annual forecasts over the 2015-20 AA period.
- **Specific year-by-year forecast**—for the opex cost categories that JGN will incur where base year costs are not representative of the future (e.g. debt raising costs, UAG, carbon, government levies).
- **Trending**—The adjusted base year is trended using a real rate of change, made up of:
 - network growth (customer numbers and energy usage) on the ‘amount of work’ that will need to take place
 - real change in the input costs for doing the work (real escalation in the costs of labour and materials, as well as general inflation)
 - opex partial factor productivity to account for returns to scale, operating environment factors and technical changes
- **Step changes**—add items that reflect ‘good industry practice’ in JGN’s operating environment and regulatory obligations.

*adjusted base year = base year – non-recurrent costs – adjustments



Expert inputs

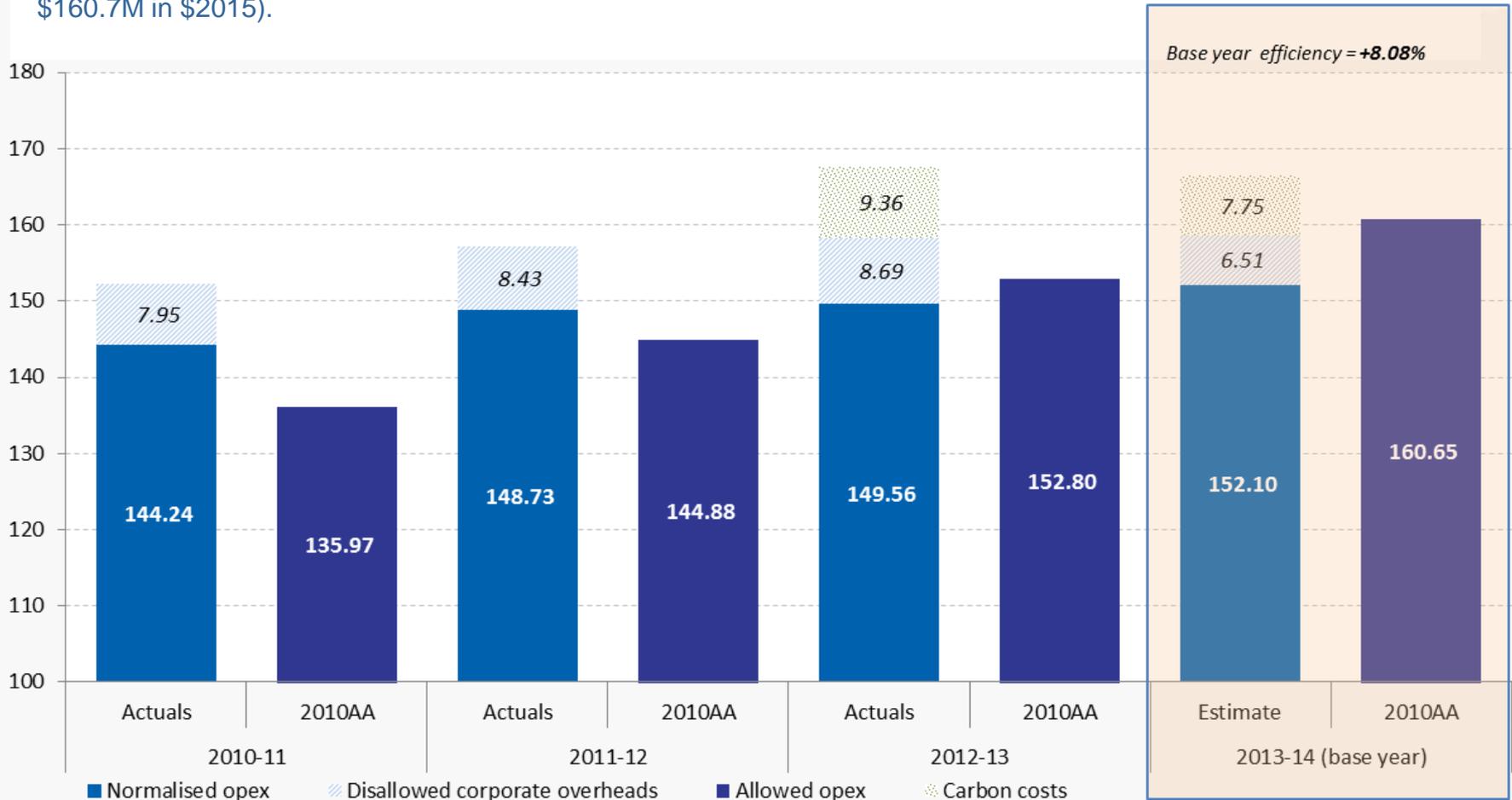
- **CORE energy group.** Provided inputs to estimate JGN's demand forecasts, which in turn impacts the rate of change applied to the adjusted base year estimate.
- **BIS Shrapnel.** Provided inputs to estimate JGN's Real input cost escalation factors for both labour and materials.
- **Economic Insights.** Provided econometric cost function analysis to estimate JGN's (a) opex partial factor productivity (PFP), (b) total factor productivity (TFP) forecast and (c) assess JGN's relative efficiency compared to other businesses.
- **Frontier Economics.** Provided statistical analysis to estimate JGN's unaccounted for gas (UAG) loss factor by market segment.
- **Incenta.** Provided inputs to estimate JGN's debt raising costs (included in its opex forecasts).



Base year selection

Jemena

- JGN's **normalised**¹ base year estimate represents an expected efficiency of **8.08%** to the AER allowance (\$152.1M vs. \$160.7M in \$2015).



2013-14 reflects lowest sustainable level of recurrent costs



Opex rate of change

Table 5.7: Opex cost function partial productivity forecasts – Average 2016 to 2020

	FGLS model	SFA model	Average
<i>1) Model's estimated cost elasticities</i>			
Energy	0.2491*	0.2284**	
Customers	0.2161*	0.1710**	
Customer density	-0.4070	-0.8393	
Capital (constant price asset value)	0.3381	0.4747	
Technology	-0.0082	-0.0088	
Non-cast iron mains	-0.3816	-0.2371	
Network fragmentation	0.0105	0.0662	
<i>2) JGN's forecast driver growth rates (2015-2020)</i>			
Energy	-1.00%	-1.00%	
Customers	2.35%	2.35%	
Weighted Average Output Growth	0.56%*	0.44%**	
Customer density	1.22%	1.22%	
Capital (constant price RAB)	2.17%	2.17%	
Non-cast iron mains	0.05%	0.05%	
Network fragmentation	0.00%	0.00%	
<i>3) PP Opex Growth Rates Forecast</i>			
Technology (A)	0.82%	0.88%	
Returns to Scale (B)	0.30%	0.26%	
Operating environment factors (C)	0.21%	-0.01%	
PP Opex Growth Rates (=A+B-C)	0.90%	1.15%	1.03%

Sources: JGN forecasts and Economic Insights estimates

* The implied proportionate cost-elasticity weights in the FGLS model are 53.8% for energy and 46.4% for customers.

** The implied proportionate cost-elasticity weights in the SFA model are 57.2% for energy and 42.8% for customers.

Average annual opex PFP growth rate = 1.03%

The opex cost function econometric analysis shows that:

- JGN's forecast average annual opex partial productivity growth rate over the period 2015-16 to 2019-20 is **1.03 per cent** when returns to scale, the impact of operating environment factors and technical change are allowed for.
- JGN is among the most efficient of the GDBs in terms of opex cost efficiency when the effects of scale, customer density, network age and network fragmentation are taken into account. Its opex efficiency is not statistically different from the efficient frontier level



Step changes

- Step changes involve increases or decreases in costs due to new regulatory obligations, or changes in the operating environment that are outside JGN’s control, such as climate change policies.
- These costs reflect forecast prudent and efficient opex not captured by the base year expenditure or trend escalation.

Step changes (\$2015)	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20
NECF	0.52	1.97	1.04	1.14	1.14	1.14
Customer engagement	0.06	0.19	0.06	0.19	0.00	0.06
JGN AA Review 2020	0.00	0.00	0.00	0.04	4.52	3.33
Annual Regulatory Reporting	0.00	0.39	0.39	0.39	0.39	0.39
Marketing	0.00	1.32	1.32	1.32	1.32	1.32
Cyber risk insurance	0.09	0.12	0.12	0.12	0.12	0.12
Total step changes	0.66	3.97	2.92	3.19	7.48	6.35

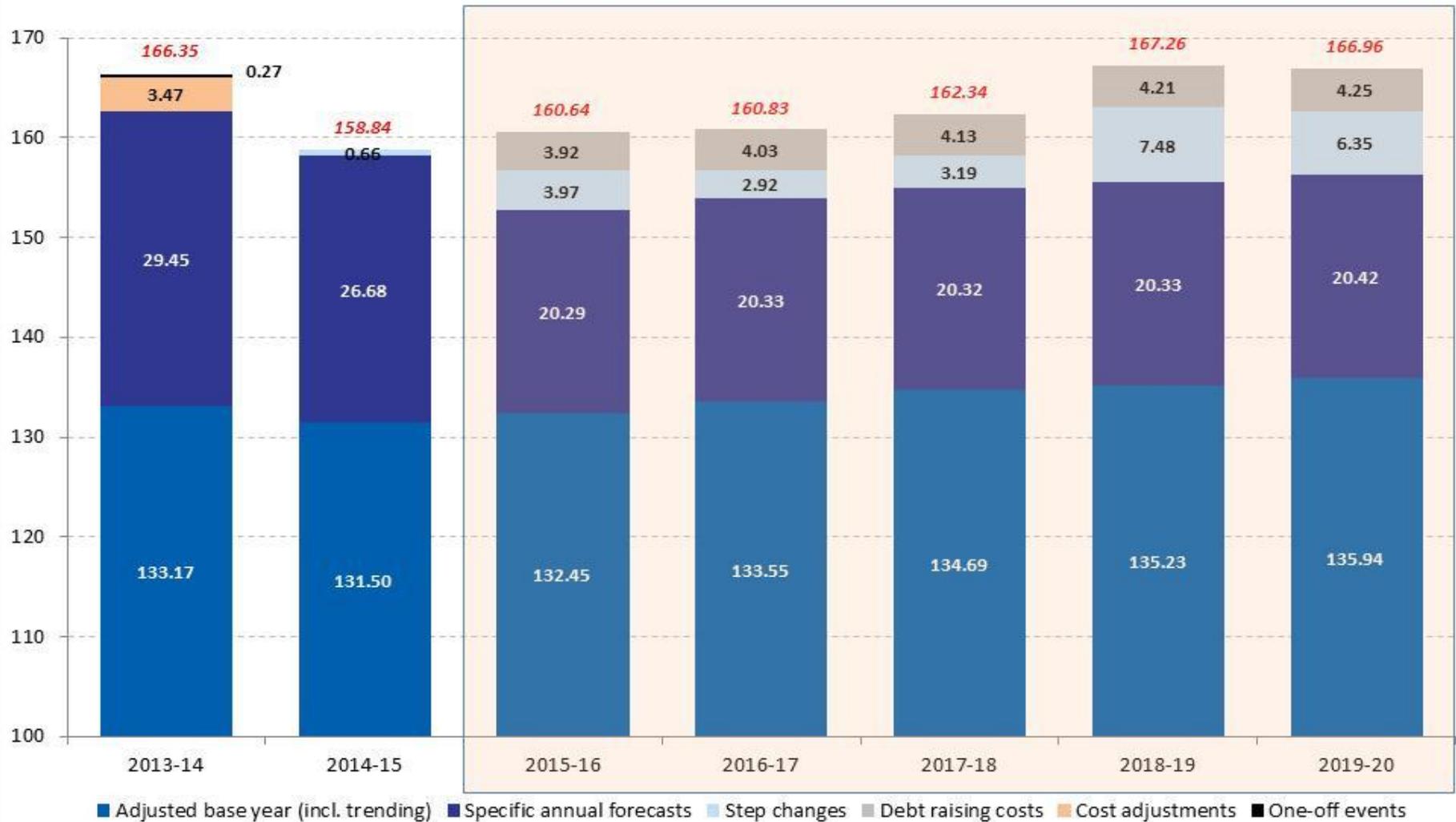
Source: JGN,

- JGN will provide details for each step change in its access arrangement proposal, setting out the (a) description and purpose, (b) their causation and (c) the basis of their forecast cost.



Opex forecast (proposed) (\$millions, \$2015)

Jemena



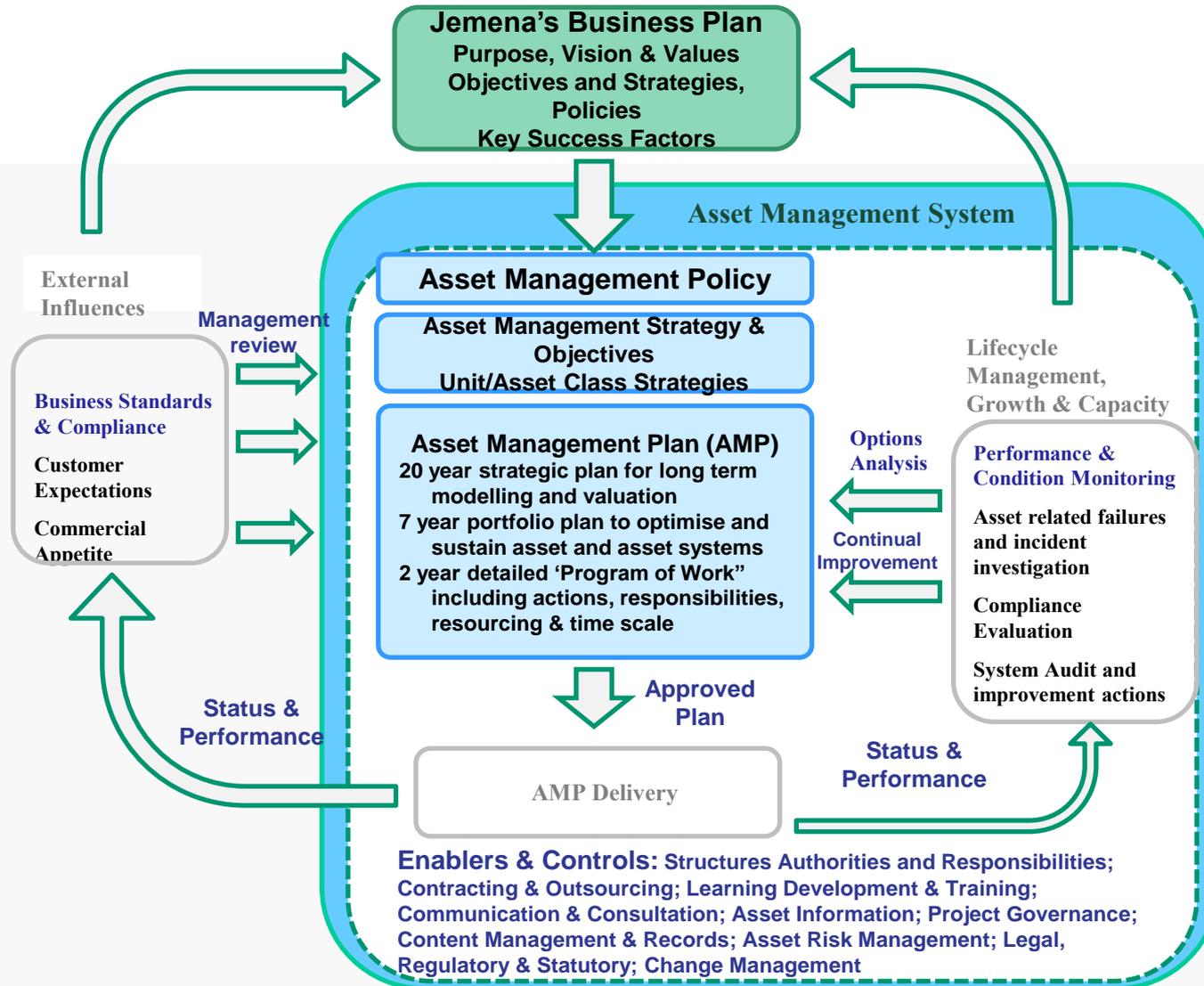
Source: JGN

Questions?

Capital expenditure

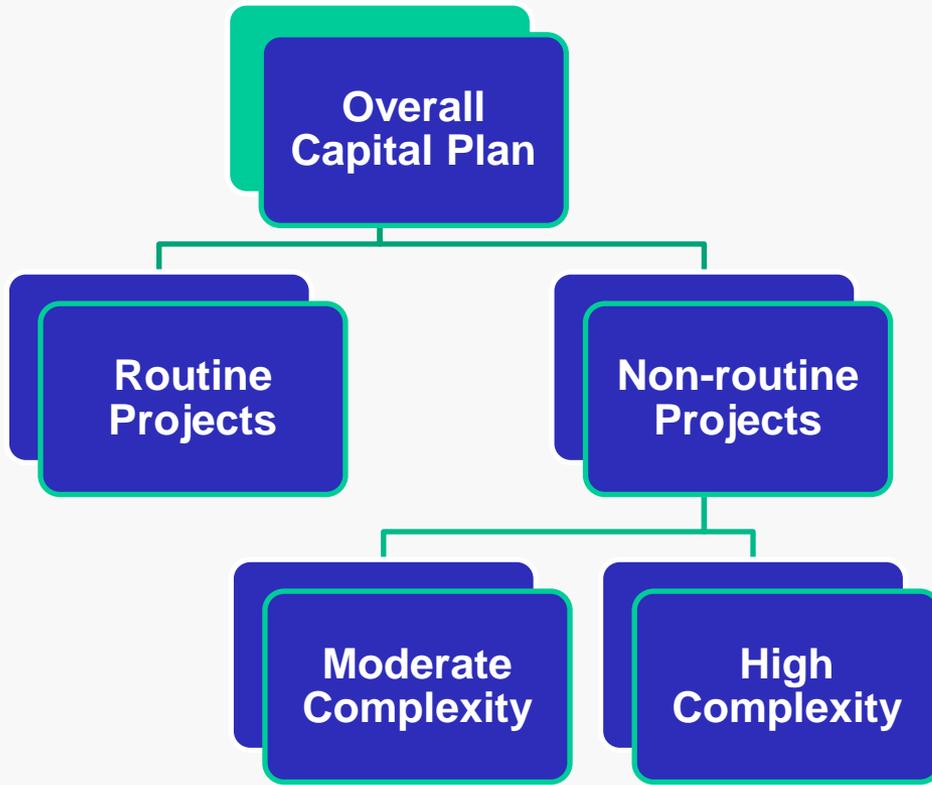


Asset management process

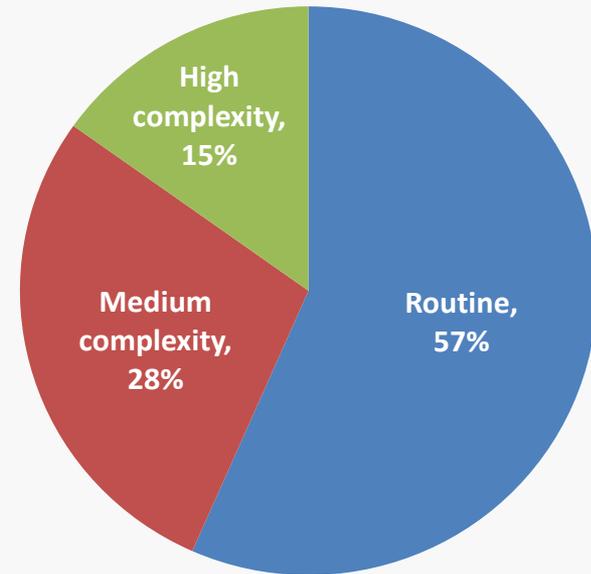




Capital Plan Breakdown



Total Capital Plan Breakdown By Capex Forecast



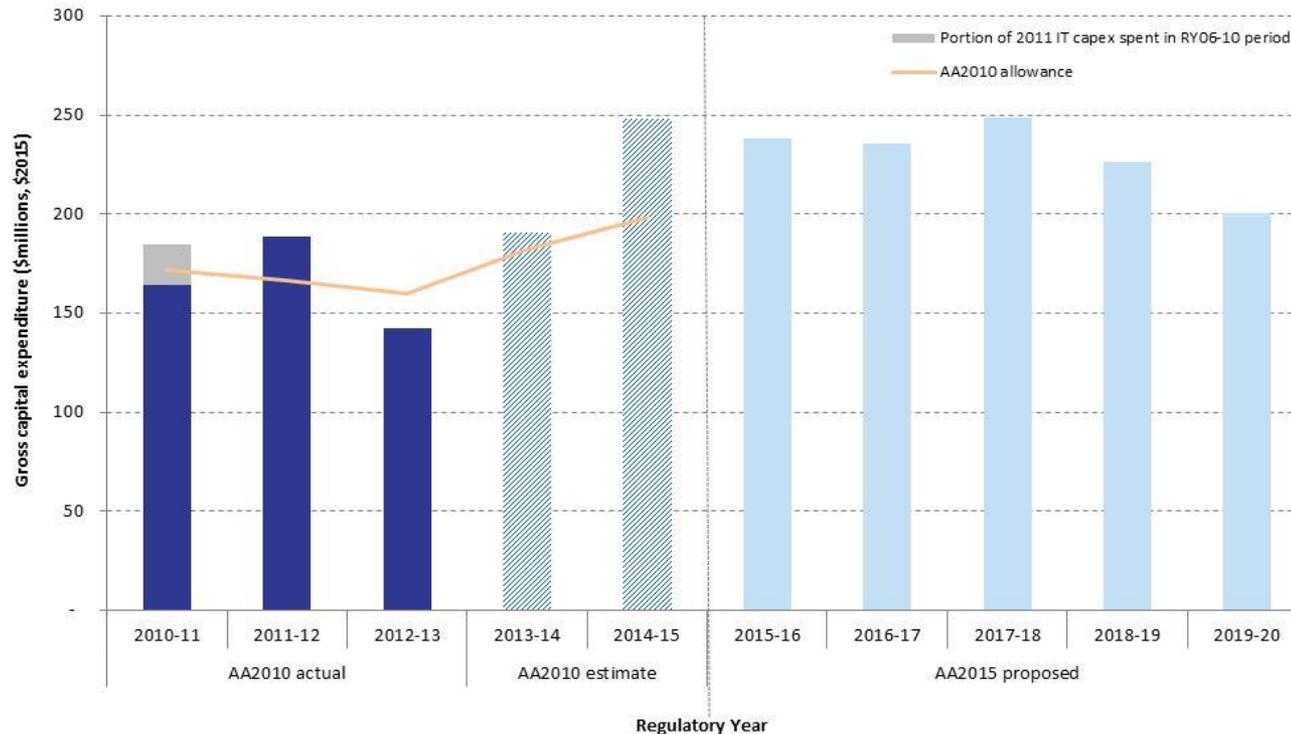


Deliverability Fundamentals

- Integration with Asset Management Processes
- Scope Definition
- Scheduling
- Project Management Governance
- Functional and Organisational Structure
 - Roles and responsibilities
 - Structure
- Human Resource Management
- Procurement Management
 - Contractors
 - Materials



Total Capex – AA2015 vs AA2010



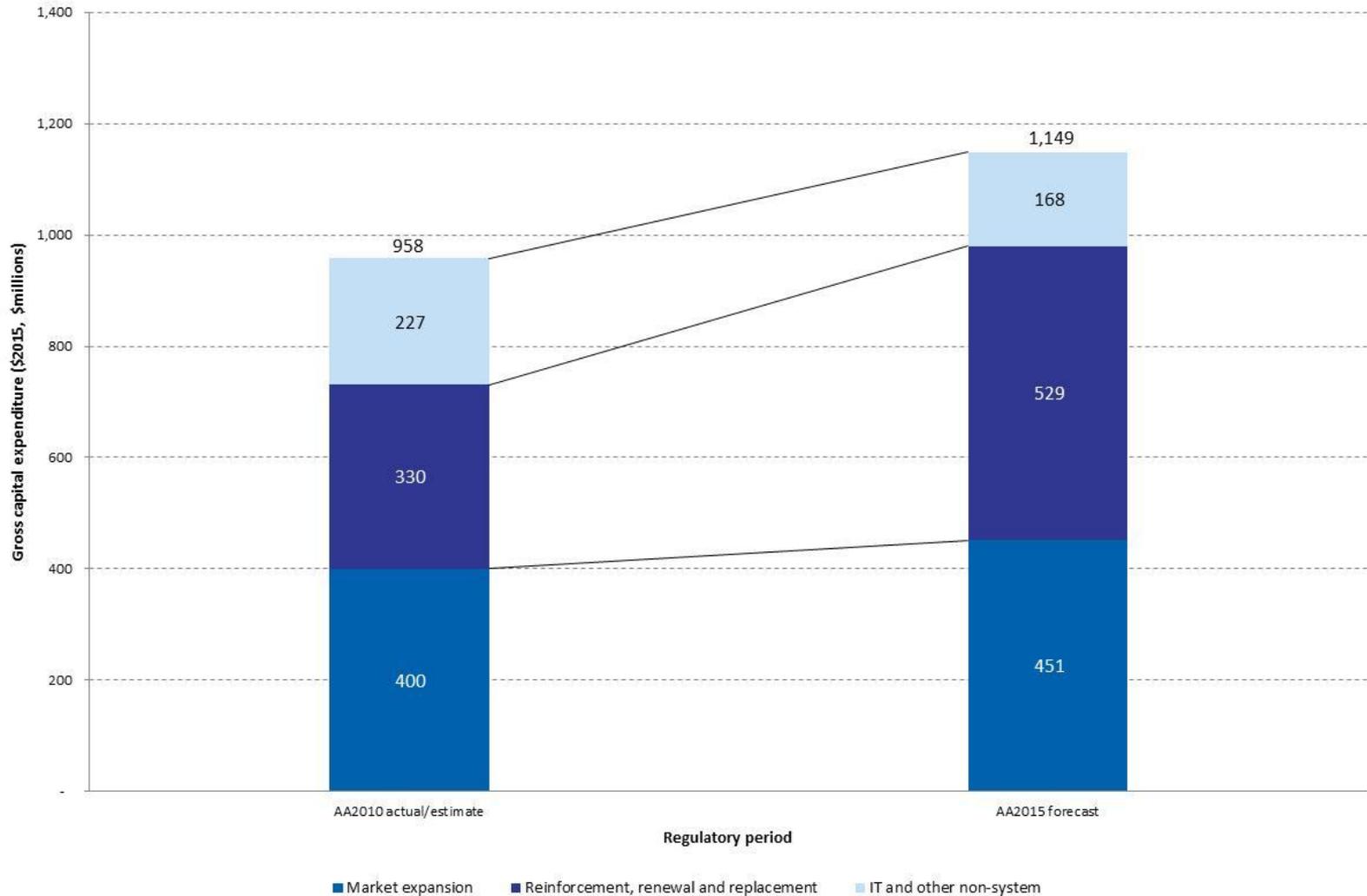
- Current period allowance \$879M, actual/estimated \$958M including \$20M of IT capex from prior period capitalised in 2011

- Next period forecast: \$1,149M

Note: all dollar amounts in this and subsequent charts are real \$2015

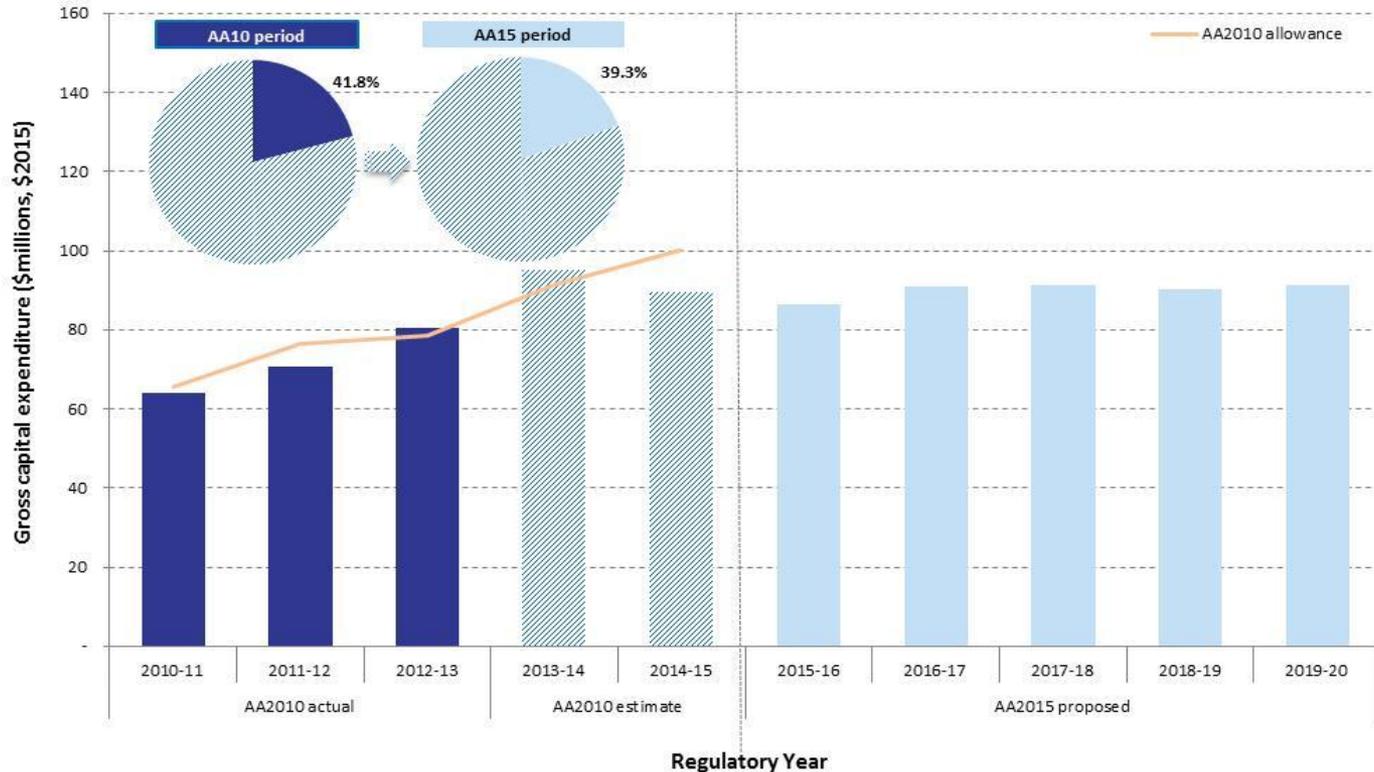


Total Capex – AA2015 vs AA2010





Market expansion

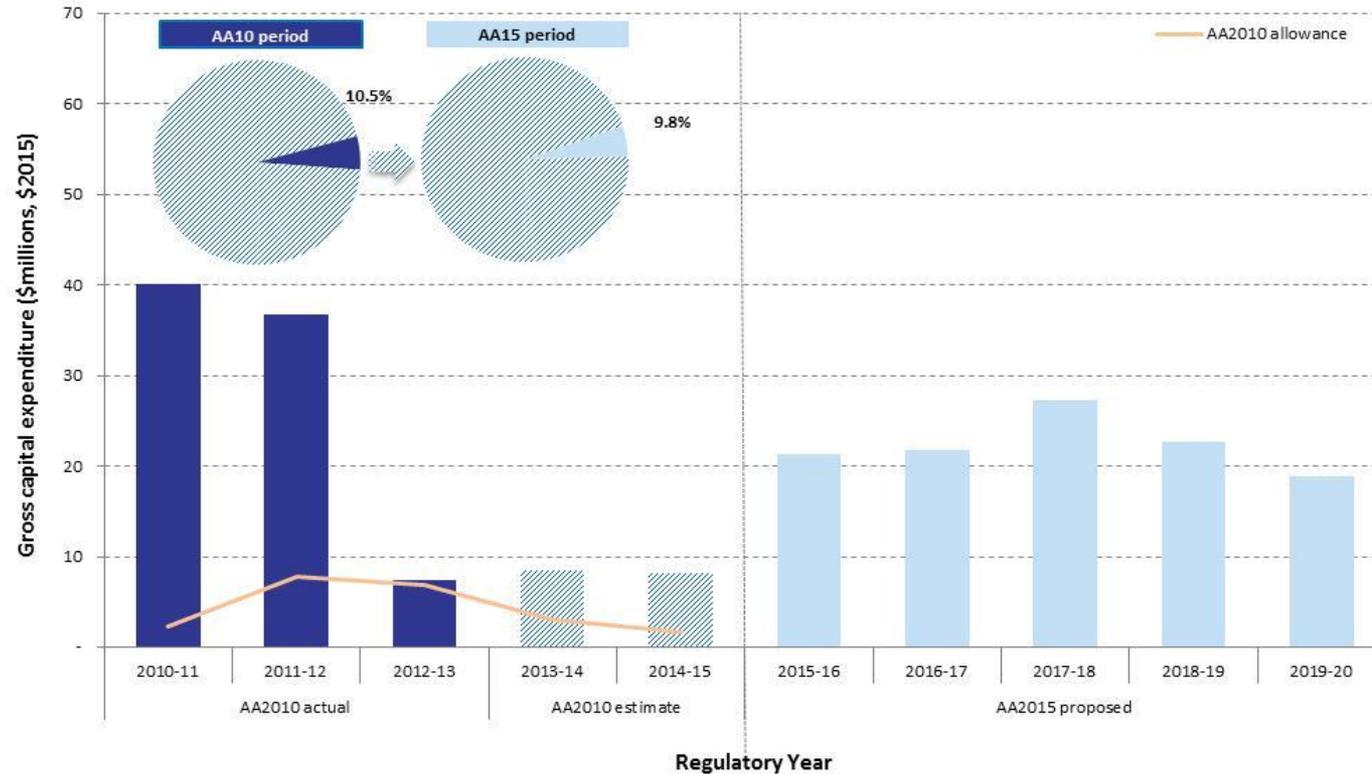


Current period actual/estimated \$400M – 41.8% of total program
 Next period forecast \$451M – 39.3% of total program

Drivers: new connections/market growth – up from 165,000 to 188,000 new connections, increased construction costs (unit rates)



Capacity development



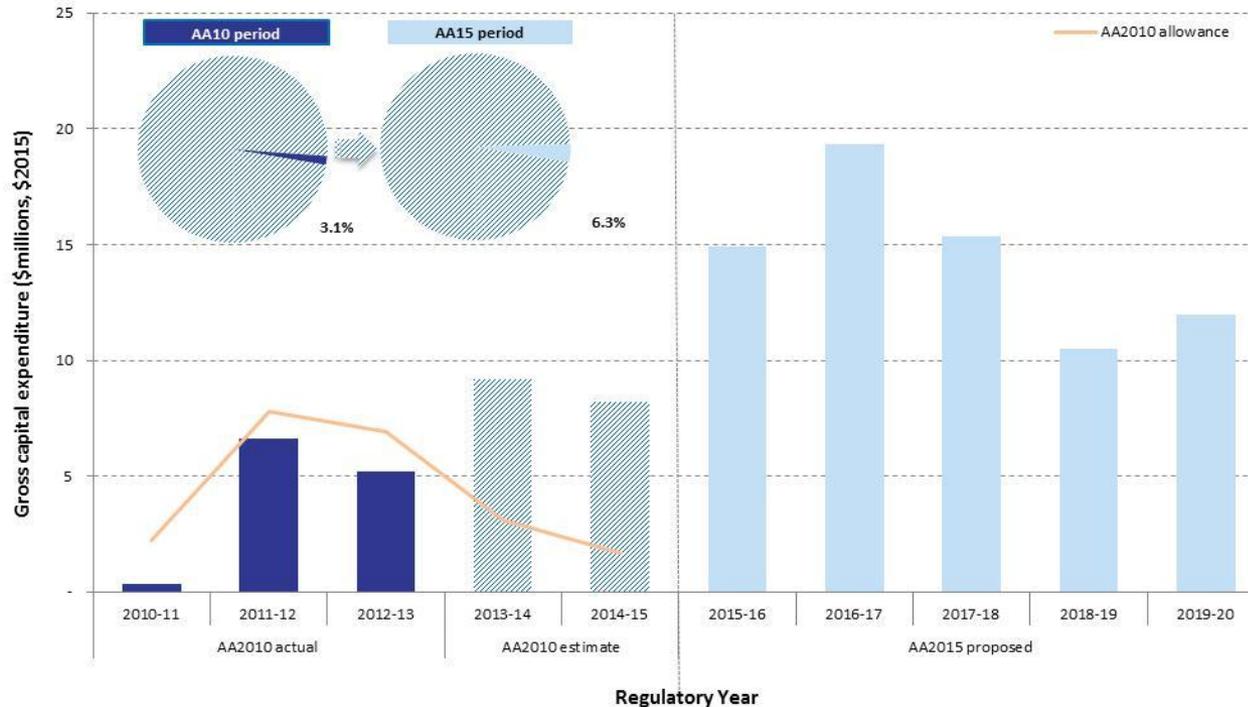
Current period actual/estimated: \$101M – 10.5% of total program
Next period forecast: \$112M – 9.8% of total program

Drivers: Increasing appliance density on existing customers, increasing localised peak hourly demand



Mains and services renewal

Jemena



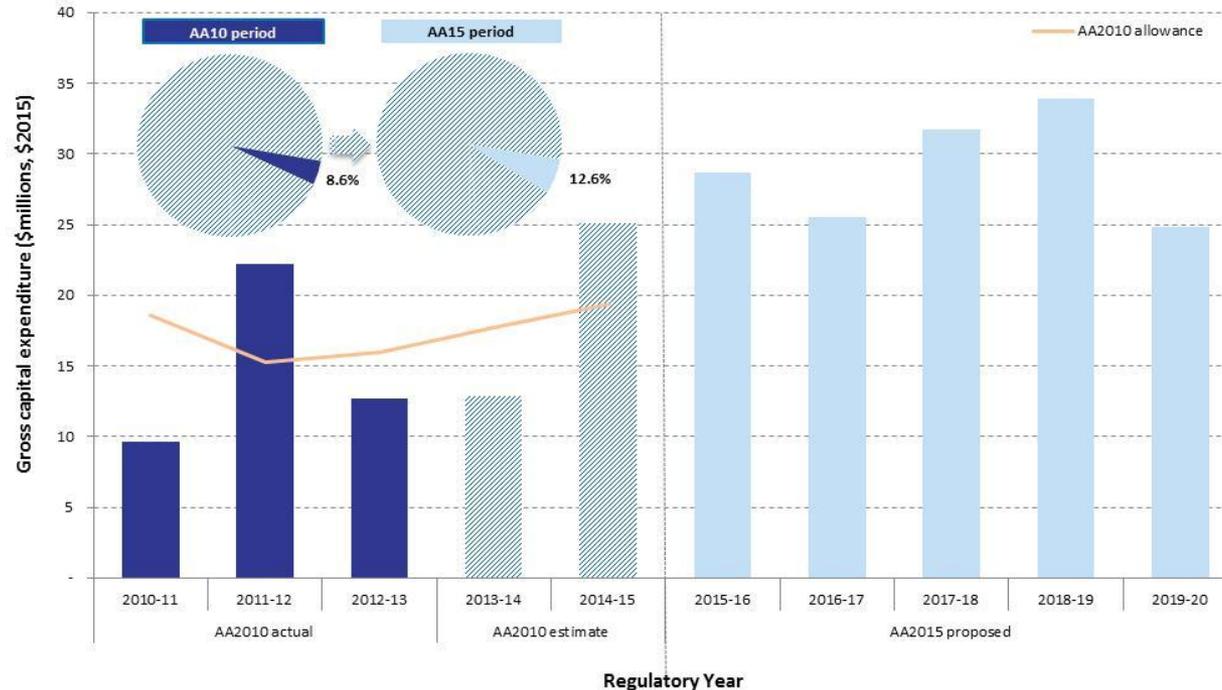
Current period actual/estimated: \$30M – 3.1% of total program
Next period forecast: \$72M – 6.3% of total program

Drivers: Asset age and condition, leakage and reported gas escapes, consistent service quality upgrading all existing 2kPa systems to provide minimum 2.75kPa metering pressure for all customers



Facilities renewal and upgrade

Jemena

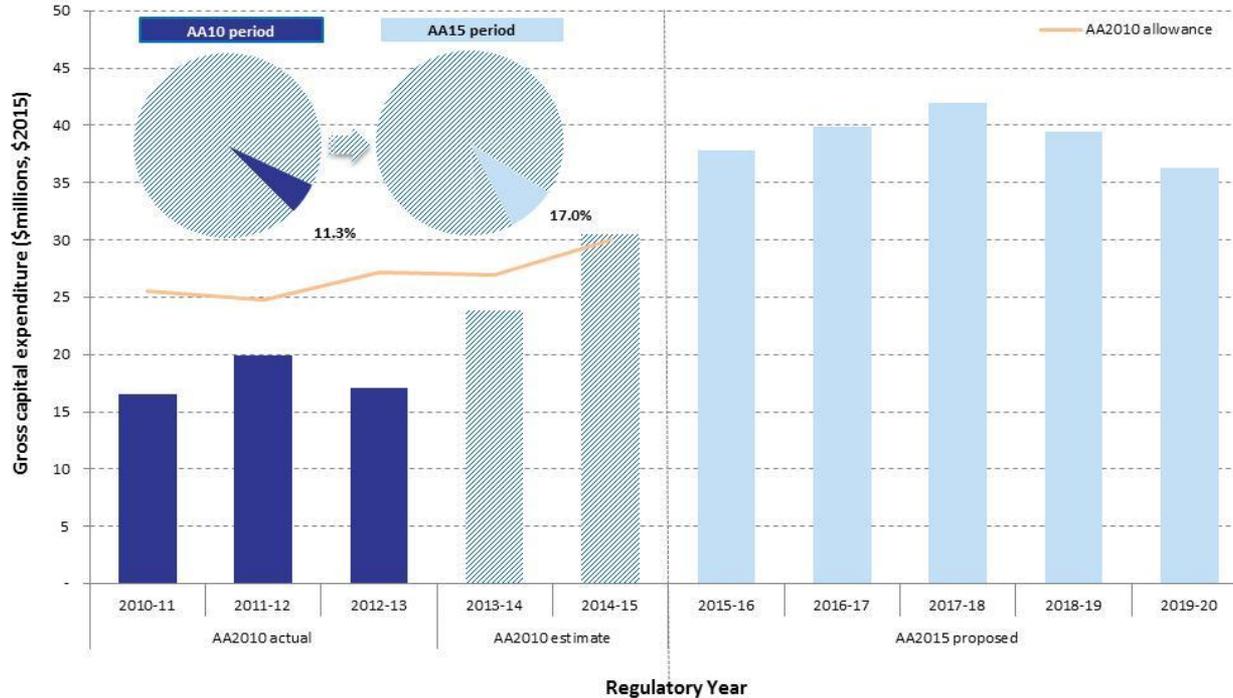


Current period actual/estimated: \$83M – 8.6% of total program
 Next period forecast: \$145M – 12.6% of total program

Drivers: Asset age and condition, new regulatory or standards obligations – hazardous area, gas supply market changes increasing delivery pressures



Meter renewal and upgrade



Current period actual/estimated: \$108M – 11.3% of total program
 Next period forecast: \$195M – 17.0% of total program

Drivers: End of extended life limits reached (25 years), domestic replacements up from 191,000 to 266,000, replacement of a class failure of hot water meters, replacement of analogue high-rise meter data loggers (technological redundancy)



Government authority work

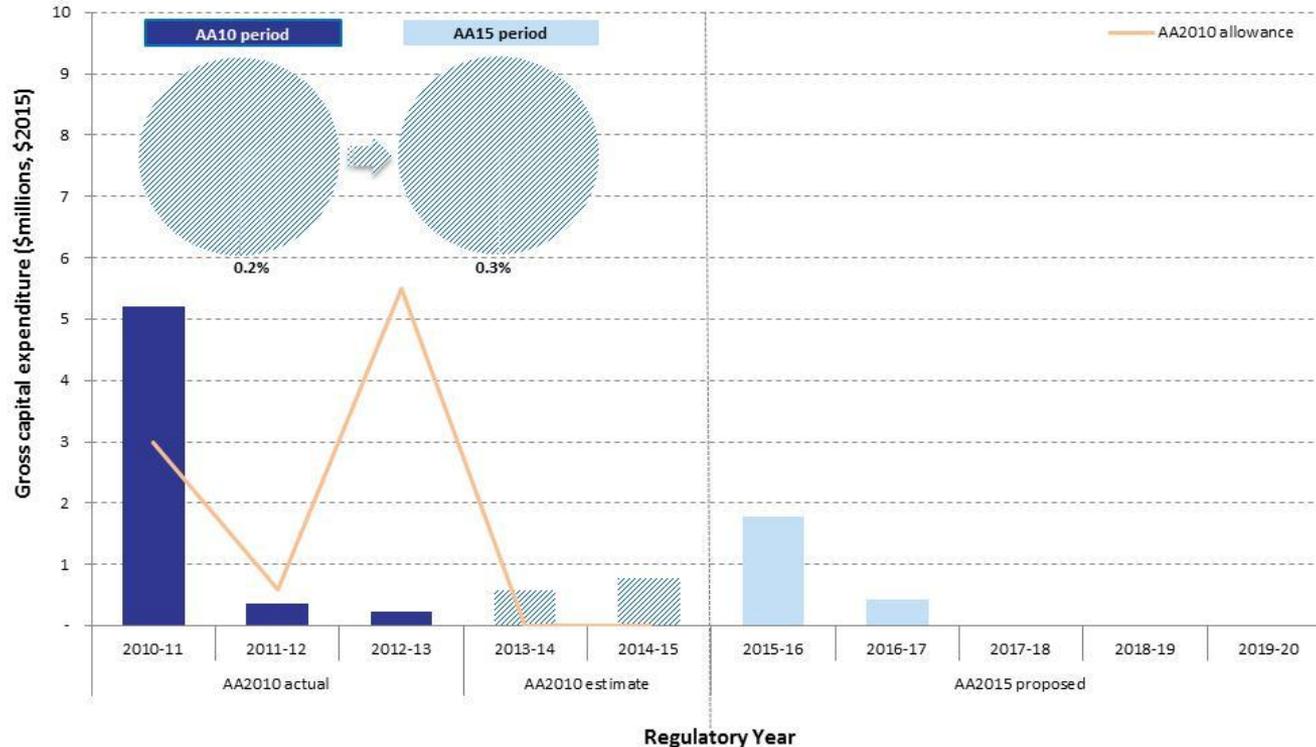
[c-i-c]

Drivers: Requests from government authorities/property owners and JGN's rights at each location, historical trend



Mine subsidence

Jemena



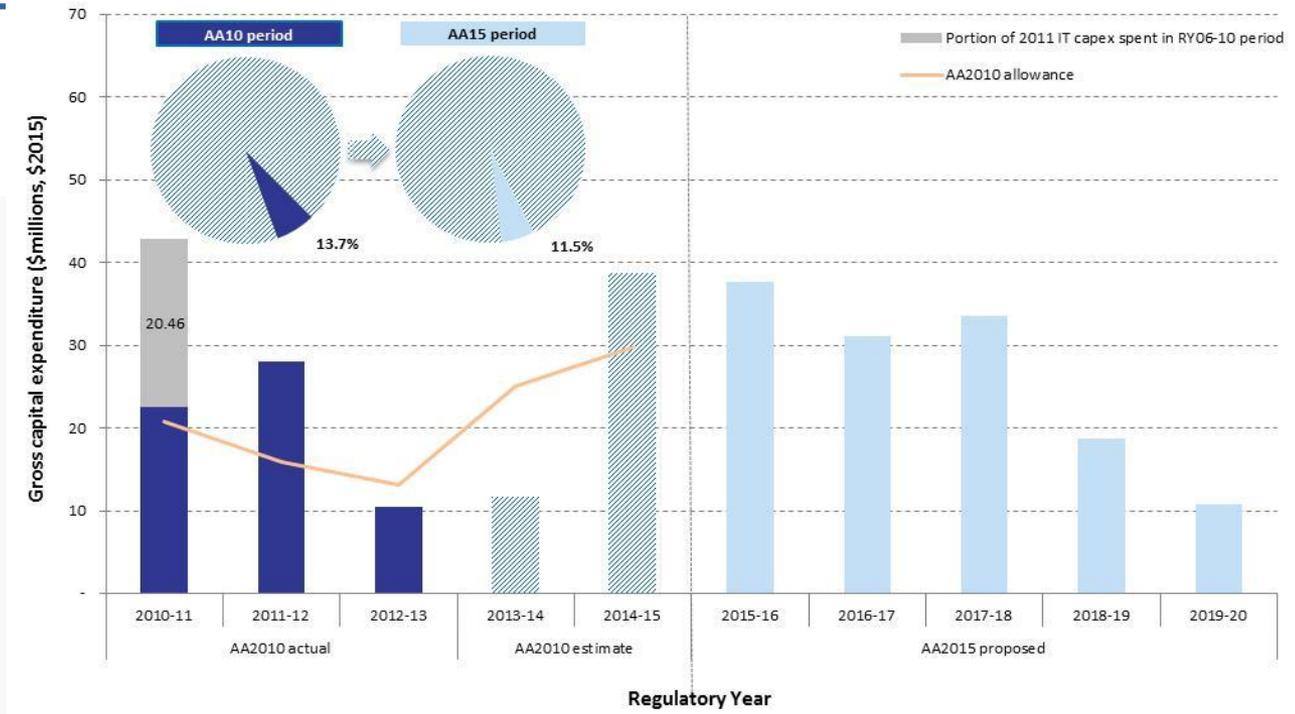
Current period actual/estimated: \$7.1M – 0.2% of total program

Next period forecast: \$2.2M – 0.3% of total program

Drivers: Long wall mining activity in the vicinity of JGN assets, none anticipated beyond 2017



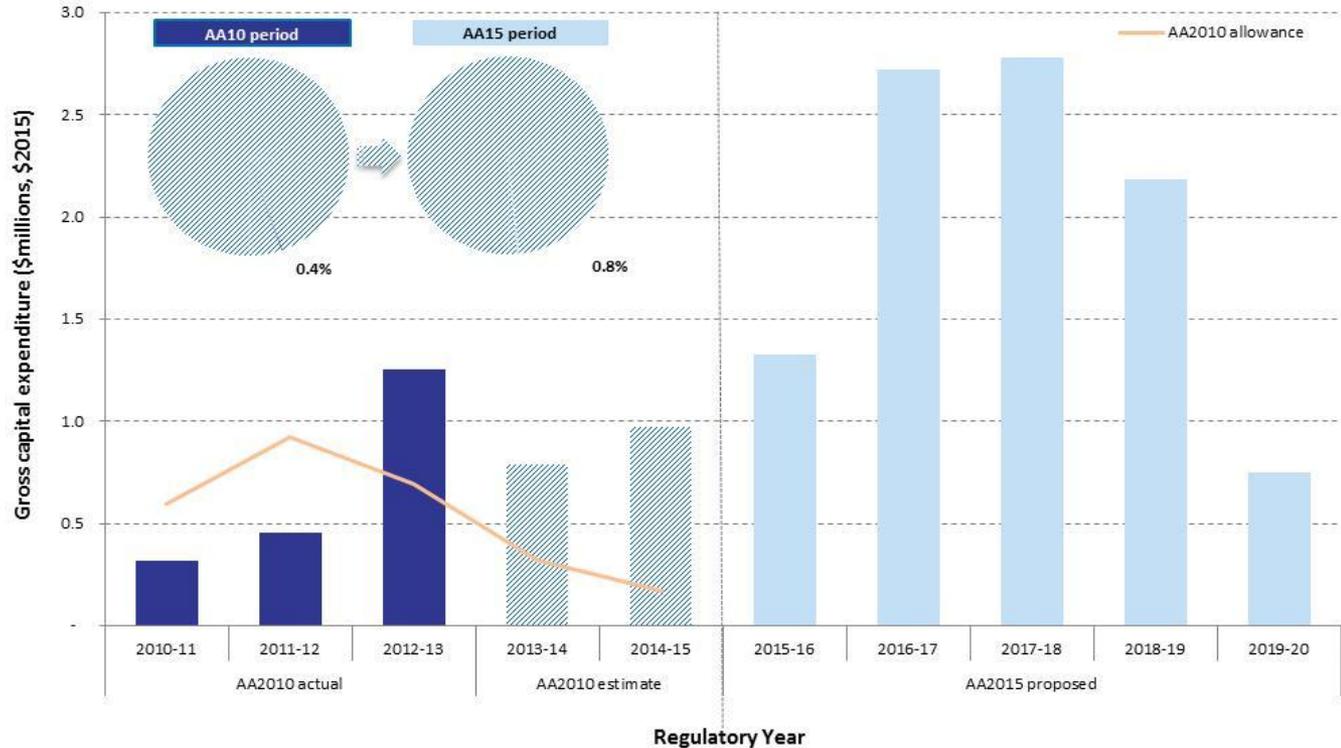
Information technology



Current period actual/estimated: \$132M – 13.7% of total program
 (includes \$20.46M from prior period capitalised in 2011)

Next period forecast: \$132M – 11.5% of total program

Drivers: Complete GASS+ and technology upgrade (GPS, field mobility, BI and analytics), system and hardware replacement/upgrade

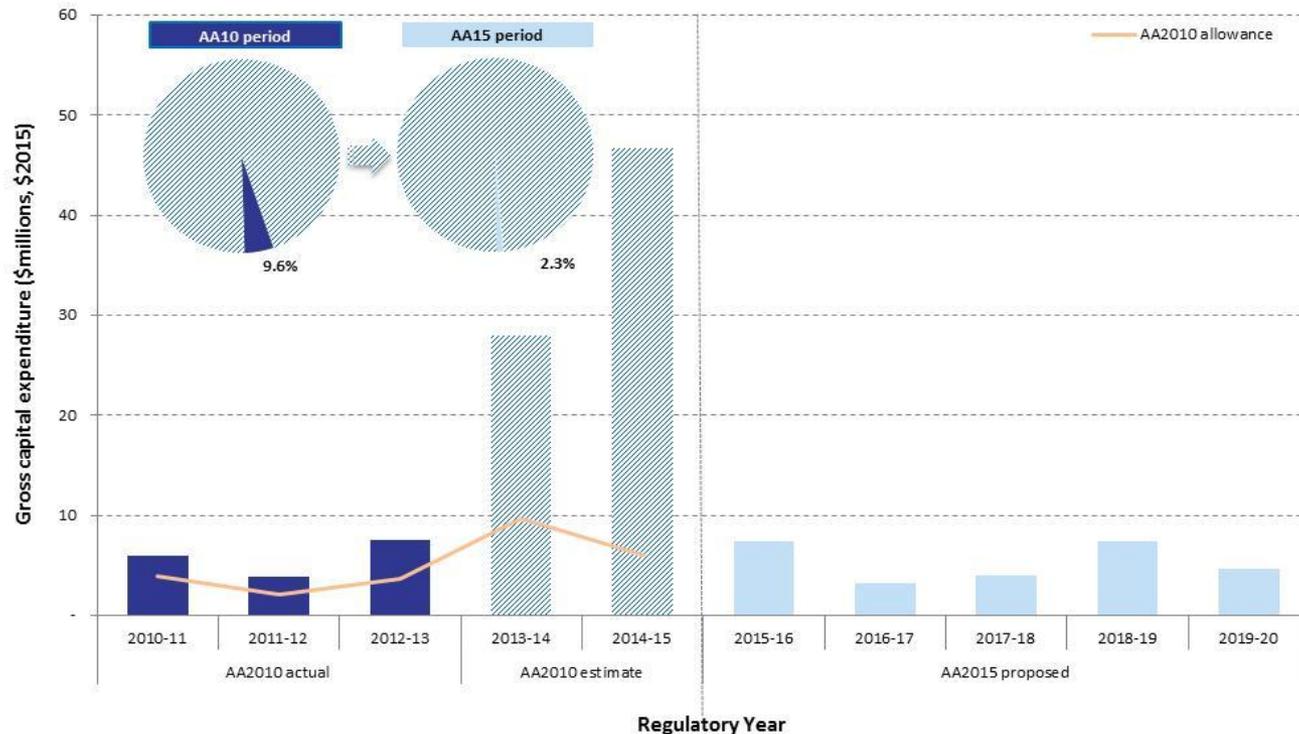


Current period actual/estimated: \$3.8M – 0.4% of total program
 Next period forecast: \$9.8M – 0.8% of total program

Drivers: Aging hardware, and software upgrades, network growth



Other capex – property, fleet and other



Current period actual/estimated: \$92M – 9.6% of total program

Next period forecast: \$27M – 2.3% of total program

Drivers: end-of-lease office relocation/consolidation and new depot build in 2014-2015 will not be repeated, fleet replacements



Customers support JGN's proposed programme

- JGN has analysed scenarios
 - *scenario 1*—service levels maintained
 - *scenario 2*—a permanent service reduction
 - *scenario 3*—temporary service reduction requiring catch-up at a later time
 - *scenario 4*—growth reduction
 - *scenario 5*—providing a consistent level of service to all customers (scenario 1 plus rehabilitation expenditure)
- scenario 5 is assessed to deliver the most preferable long term outcome for customers
 - customers support this view.

Questions?

WACC and Gamma



WACC and gamma | Summary

- Focused on (a) encouraging efficient investment in the network and (b) estimating the efficient costs of financing that investment
- Started with the rate of return guideline and consultation
- Accepted many elements, including:
 - Leverage, term, use of third party data providers for the cost of debt
- But departed on some elements:
 - Benchmark firm for gas networks, relevance and role of cost of equity models, equity beta and theta

Element	Value
Cost of equity	~10.7%
Cost of debt	7.30%
Leverage	60%
Gamma	25%
Nominal vanilla WACC	~8.65%
Sample averaging period	20 business days to 12 Feb 2014



WACC | Starting point

Our starting point

- We understand that WACC is important to both our **investors** (as it is a key determinant of their returns) and our **customers** (as it is a key driver of their tariffs)
- Our focus is on getting the right sustainable **balance** between attracting sufficient capital to invest in the network in the long-term and keeping customer bills down
 - The WACC should reflect the return that investors need to fund investment in the assets; if this return is too high, then customers may pay more than is fair, if too low, then investors may not invest and the reliability and safety of gas supply may reduce
- Our starting point then is the return required **by the market**; for debt investors we look at traded bond prices, for equity investors we look at traded share prices—this is consistent with the guideline, but there are some key differences



WACC | Benchmark firm

Our proposal

- The rate of return must reflect the **risks that apply to JGN** in respect of the provision of reference services, as set out in the rate of return objective
- Although the risks faced by electricity and gas transmission networks are relevant to this question, they are **not the same** as those that apply to JGN
- We looked, therefore, at **whether it makes sense** to use a common benchmark firm definition across all energy networks (including for JGN) given the differences in risks faced by each type
- We found, both qualitatively and quantitatively, that these differences do warrant using a separate benchmark firm definition for JGN—and reflected this in our WACC proposal



WACC | Return on equity

Background

- There are a number of models one could use to estimate the cost of equity, but none of these are perfect
- Under the old rules, the Sharpe-Lintner CAPM was the only model used to estimate the cost of equity
- The AEMC rule change encourages a more holistic approach to setting the rate of return, and a greater role for other cost of equity models and evidence



WACC | Return on equity

Our proposal

- Our proposal is to compare estimates from a **range of models** and then distil these down into a single estimate by recognising the pros and cons of each
- We think this approach helps overcome the shortcomings of relying heavily on the Sharpe-Lintner CAPM and minimises the volatility from its application, which has been problematic over recent years
- We also propose considering foreign data when there is insufficient Australian data to reliably estimate input parameters (e.g. beta and the FFM factors) and focus on forward-looking approaches (such as the DDM) when estimating the MRP



WACC | Return on equity

Our proposal (cont.)

- We propose using four relevant models, because we recognise none is perfect
- Using multiple models:
 - means a **consensus view** is implemented and estimates are less volatile, but
 - does **not** mean we select the model that gives the highest value
- Estimates are supported by new expert reports from SFG and Incenta



Model	Value
Sharpe-Lintner CAPM	10.0%
Black CAPM	10.6%
Fama-French three factor model	10.9%
Dividend discount model	10.9%



WACC | Return on debt

Our proposal

- We propose using:
 - A 10 year term and BBB credit rating as the **benchmark**
 - Data published by recognised third party providers to **estimate**
 - The trailing average approach and transition set out in the rate of return guideline to **implement**
- On selecting the preferred third party data, we propose selecting the curve that best fits a wider sample of bonds for a given averaging period, consistent with previous Tribunal decisions
- For our sample averaging period the preferred curve is that published by the RBA, but this may change



WACC | Return on debt

Background

- The standard approach is to use one or more benchmark yields published by third party data providers, which themselves use traded bond prices to estimate the yield required for various credit ratings (e.g. BBB or A)
- Currently there are two such providers, the RBA and Bloomberg
 - **Bloomberg BVAL curve**—which is new, and replaces the previous Bloomberg fair value curve
 - **RBA benchmark curves**—which is also new, and is a major improvement on existing curves
- Selecting between these can be difficult, and has been the subject of previous Tribunal decisions—which decided that the curve (or combination of curves) that best fits the traded bond data should be used to estimate the return on debt



WACC | Return on debt

Our proposal (cont.)

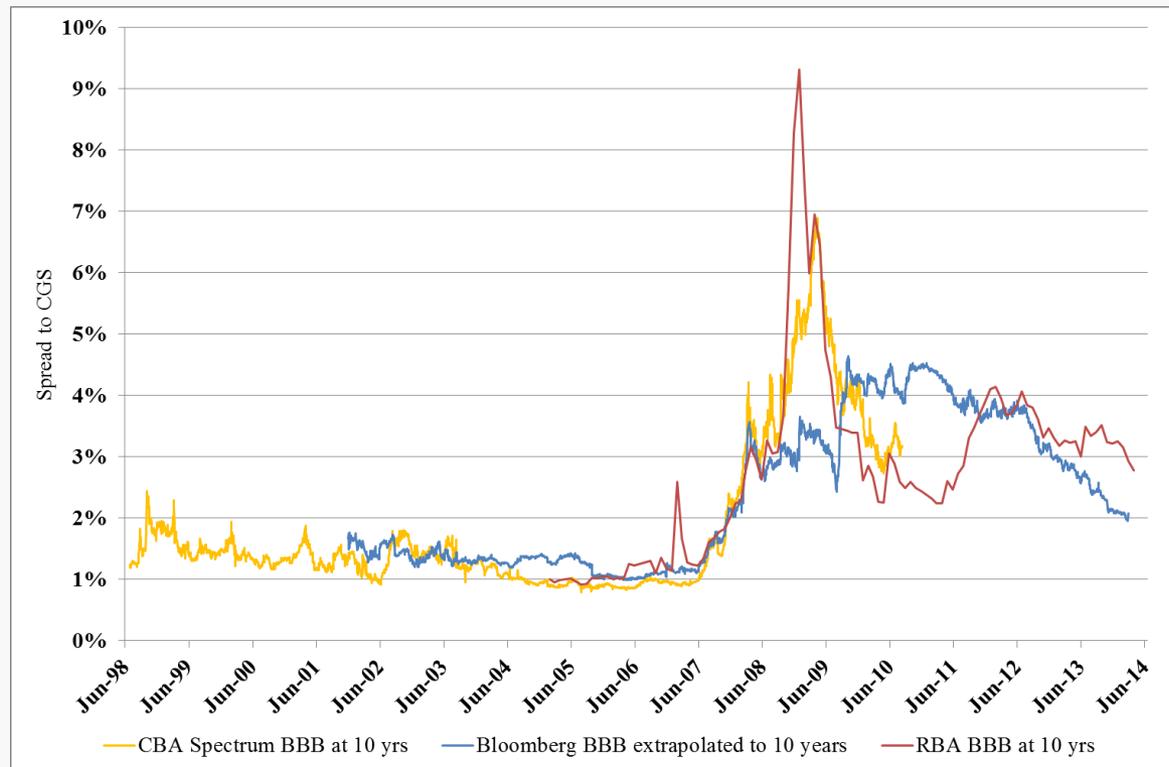
- On implementation, we also propose:
 - Updating the trailing average for each year of the next regulatory period, including by selecting the preferred curve separately for each subsequent averaging period as this recognises that the reliability of curves changes over time (see next slide) and therefore may not give the best estimate all of the time
 - Nominating subsequent averaging periods in the year prior to when they fall, rather than all at the outset, as this better supports efficient debt management practices
 - Updating tariffs to reflect the actual cost of debt estimates by using our proposed PTRM to recalculate the X factors for years three to five
- Our method for updating the return on debt each year is specified in our access arrangement revisions



WACC | Return on debt

Comparison of curves

- The curves have jumped around over recent years with some being used at some times, and others at other times





Gamma | Proposal

Our proposal

- Gamma is the product of an assumed payout ratio and value of distributed credits (i.e. theta)
- We agree with the guideline payout ratio estimate of 0.7, but not with the theta estimate of 0.7
- Our proposal, instead, is to use a theta estimate of 0.35, based on market studies
- This reflects our view, and the position taken previously by the AER, other regulators and the Tribunal, that theta (and gamma) are market values, not assumed redemption values (which is the new interpretation taken in the guideline)



We have a new report from expert SFG



Gamma | Proposal

Our proposal (cont.)

- A **market value** definition of theta is supported by:
 - A reasonable interpretation of what return is required (as both dividends and imputations) to ensure investors invest efficiently in the network—as required by the NGO
 - Consistency with how the WACC is estimated (e.g. using market values of shares and bonds)
 - Practical reasons for why a dollar of distributed credits is valued at less than a dollar by investors
 - Previous regulatory precedent and advice from experts
- Adopting this definition, SFG’s 2013 **dividend drop off** study provides the most reliable current estimate of theta in Australia (0.35), which is consistent with SFG’s earlier study prepared for the Tribunal in *Re Energex*

Questions?

Services and tariffs



Our customers....

- are concerned about forecast increases in retail gas prices, and value our network prices promoting stability and predictability in retail prices
- value network service reliability and responsiveness, and support all customers having access to the same level of service
- want us (and others) to focus on the cost efficiency of their services and to attract new customers to the network to ensure the price of gas remains competitive with other fuels
- value simplicity in network prices to allow them to understand energy pricing and compare retail price offers, and value transparency around our pricing decisions today and in the future
- see fixed charges as a barrier to gas connection and energy efficiency



We are committed to responding to gas market challenges to

1. Provide a service that customers value
2. Keep downward pressure on our costs and our network prices
3. Respond to changes in the way the gas market is used
4. Recover our costs in a way that meets customers expectations
5. Continue to be proactive in attracting new customers
6. Reduce barriers to customer participation in the energy market





Simplifying tariffs requires simplifying our services

- We have been simplifying our reference services over time (2005 vs 2010 AA)
- We have consulted with customers and stakeholders on value of rolling the Meter Data Reference Service in with Haulage reference services
 - Customer support for simplifying our services, tariffs and charges
 - Aids simplicity for customers comparing retail market offers (network pass through)
- This would:
 - Harmonise our services with other gas distributors
 - Reduce the number of network tariff components (e.g. reduce from three fixed network charges for residential customers)
 - Enable customers to more easily understand the resulting network charges and how their bills may change over time

Key 2015 AA proposal: Consolidate our reference services into a single 'haulage reference service'



Improving our engagement on our network prices

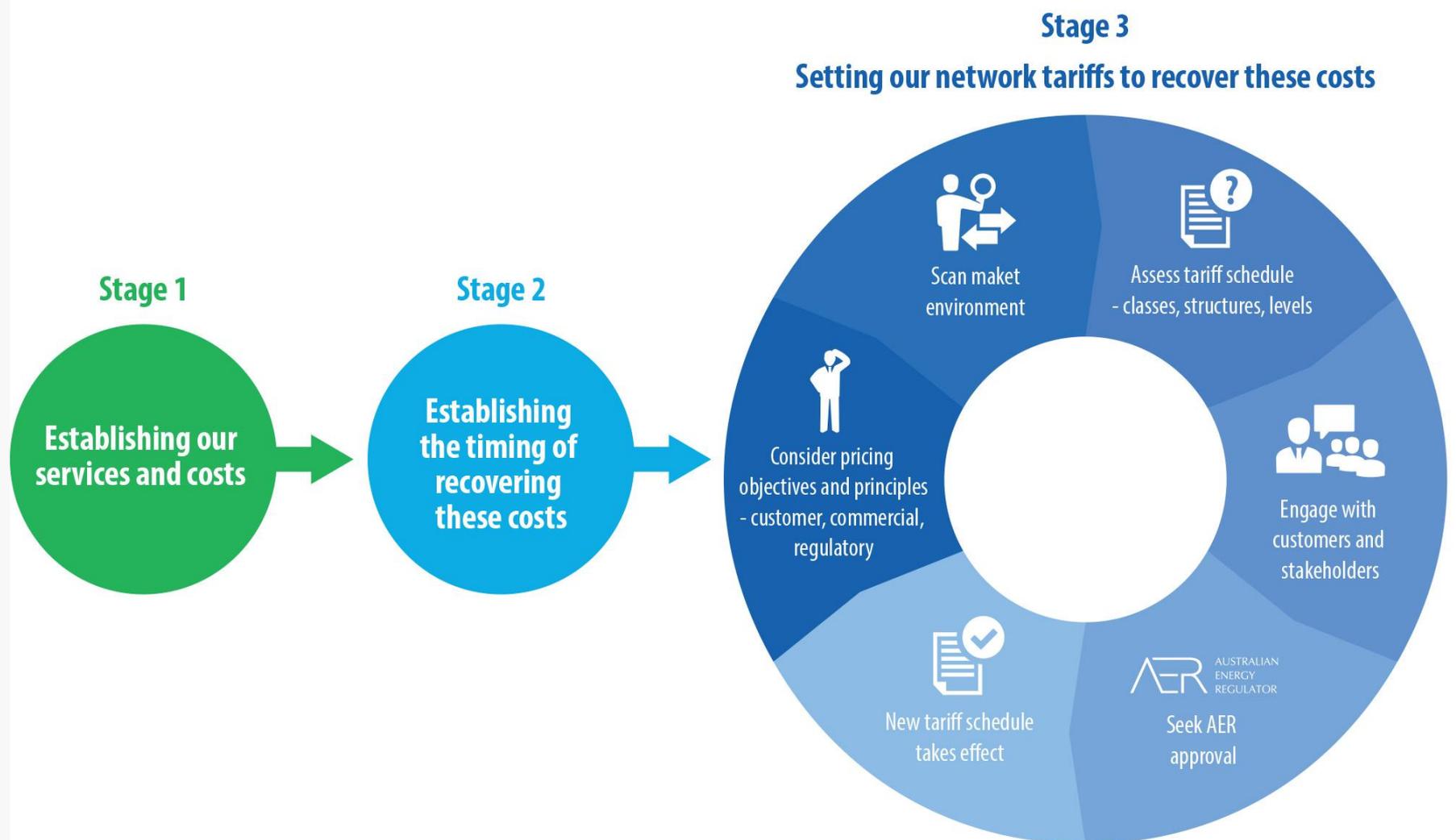
A tariff structures statement to

- Explain what we mean by our ‘tariffs’
- Outline our approach to develop our tariffs in customer-friendly language
- Provide discussion on key steps, influences, our tariff objectives and trade-offs
- Provide tariff levels, structures and expected trends
- Answer questions customers might have on our network tariffs
- Outline our annual engagement process



Key 2015 AA outcome: We will publish a tariff structures statement (TSS)

TSS outlines how we set our network prices





Transparent pricing objectives

Our pricing objectives are to:

- To recover our efficient costs of operation—we need to recover around \$550M per year to continue to provide safe and reliable natural gas services into the future
- To keep gas competitive compared to other fuel options—maintain and enhance the attractiveness and position of natural gas as a value for money fuel of choice in NSW
- To promote efficient use of our network and treat customers equitably—ensure customer groups pay prices that reflect the costs they impose on our network and ensure similar customers pay similar prices
- To provide stability in our network and in end-retail prices—where possible, minimise any sharp change in end-customer bills
- To provide simplicity and transparency—ensure customers and stakeholders can understand our tariffs and charges.



Tariff class improvements

	Trigger	Relevant pricing objective	Improvement
1	Increasing demand from energy intermediaries to on-sell gas and thermal energy to residential or business end-customers.	To promote efficient use of our network and treat customers equitably	Introduce new tariff classes for “energy intermediaries” (aggregators)—Volume Boundary (VB) tariff classes
2	Technological, market and policy developments mean residential customers in large precincts may be supplied electricity, heating or cooling from a gas fired plant (cogeneration or trigeneration).	<ul style="list-style-type: none">• To promote efficient use of our network and treat customers equitably• To keep gas competitive compared to other fuel options	Introduce new tariff classes for precinct cogeneration and trigeneration—Volume Residential distributed generation technology (VRT) tariff classes
3	Demand and financial risk arises if we leave first response tariff classes open to reassignment	<ul style="list-style-type: none">• To recover our efficient costs of operation• To provide simplicity and transparency	<ul style="list-style-type: none">• Remove inactive first response tariff classes and grandfather existing customers• Customers given opportunity to be assigned before closed



Tariff component improvements

	Trigger	Relevant pricing objective	Improvement
1	Customers want us to reduce complexity and barriers to energy market participation	To provide simplicity and transparency	One fixed charge instead of three for small customers
2	Forecast wholesale gas price increases	To keep gas competitive compared to other fuel options	Modification of block sizes to target cost reductions to residential hot water or heating market
3	Perverse pricing incentive between low consumption demand market and high consumption volume market	To promote efficient use of our network and treat customers equitably	Modification of demand market block sizes to ensure customers face prices that better reflect the costs they impose
4	National Energy Customer Framework	To promote efficient use of our network and treat customers equitably	<ul style="list-style-type: none">• Align charges for requests for ancillary activities to NECF• Better align ancillary charges with expected costs



Tariff level strategy – Volume market

Target cost reductions to residential hot water or heating market to keep gas competitive compared to other fuel options

Expected trend relative to average	Ry16	Ry17	Ry18	Ry19	Ry20
Average price change for volume market	- 4.2%	- 2.9%	- 2.9%	- 2.9%	- 2.9%
Above average change (↑)	<i>VRT all blocks</i>	<i>VRT all blocks</i>	<i>VRT all blocks</i>	<i>VRT all blocks</i>	<i>VRT all blocks</i>
Below average change (↓)	<i>VI block 2</i>	<i>VI block 2</i>	<i>VI block 2</i>	<i>VI block 2</i>	<i>VI block 2</i>
Same as average trend	<i>All remaining volume tariff components including fixed charge, VB (all blocks), VI blocks 1 & 3-6)</i>				

VI are the Volume Individual tariff classes, which make up the bulk of our 1.2M customers



Tariff level strategy – Demand Market

Target block 1 to minimise perverse incentive to inefficiently increase consumption to move from volume to demand market

Expected trend relative to average	Ry16	Ry17	Ry18	Ry19	Ry20
Average price change for demand market	2.4%	2.4%	2.4%	2.4%	2.4%
Above average change (↑)	Capacity charges (block 1)	Capacity charges (block 1)	Capacity charges (block 1)	Capacity charges (block 1)	Capacity charges (block 1)
Below average change (↓)	Capacity charges (block 2)	Capacity charges (block 2)	Capacity charges (block 2)	Capacity charges (block 2)	Capacity charges (block 2)
Same as average trend	Fixed charge, throughput and capacity per km charges (all Blocks)				



Tariff variation process improvements

Trigger	Relevant pricing objective	Improvement
Stakeholders (e.g. IPART and retailers) want earlier sight of prices	To provide simplicity and transparency	<ul style="list-style-type: none">• Bring forward annual TVN proposals from 15 Apr to 15 Mar• Expected trends in the TSS• Commitment to consult on changes to tariff classes, structures or ancillary charges in October (refer TSS)

Questions?

Submission models overview

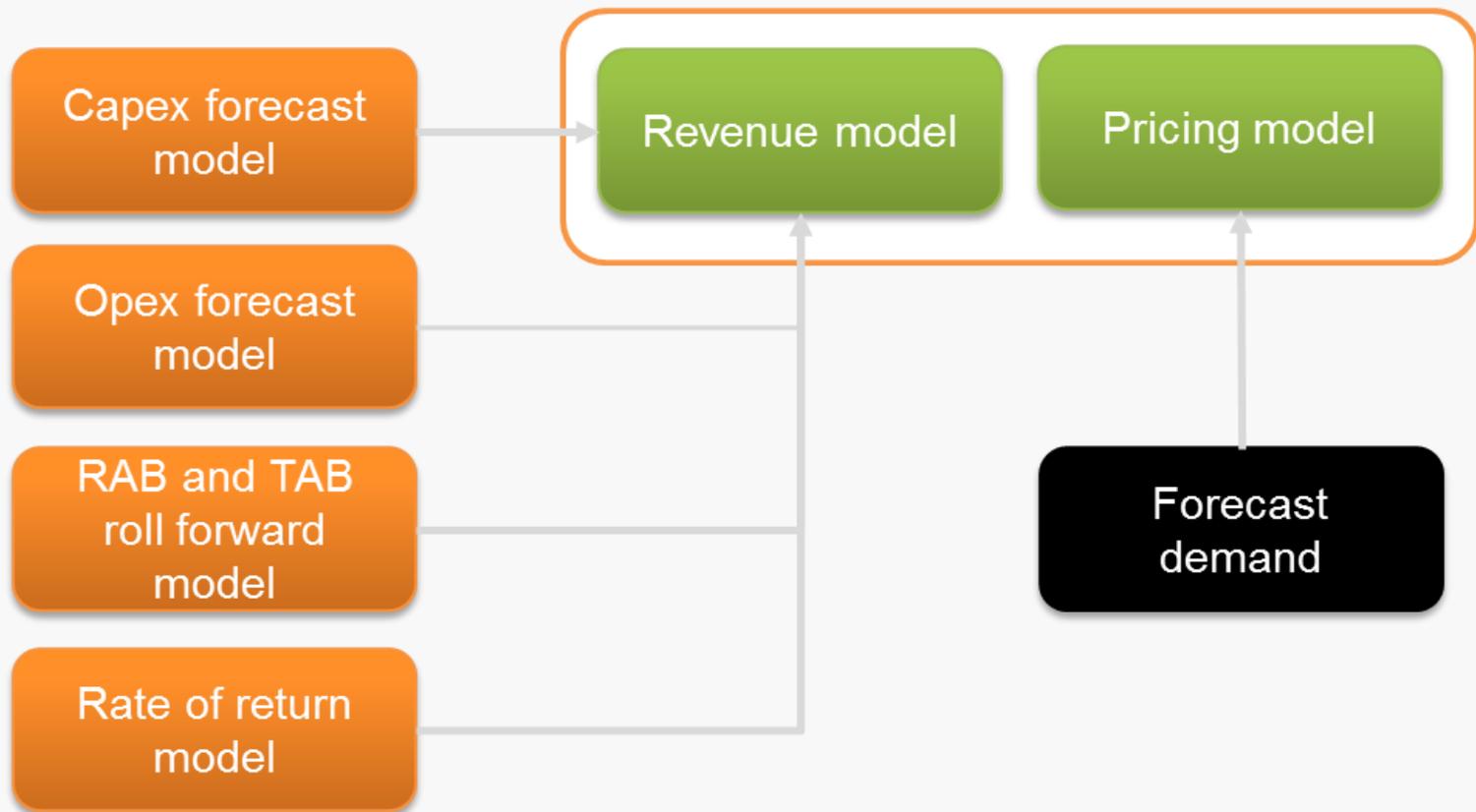


Outline

- Model map
- Comparison to AA10
- Review process

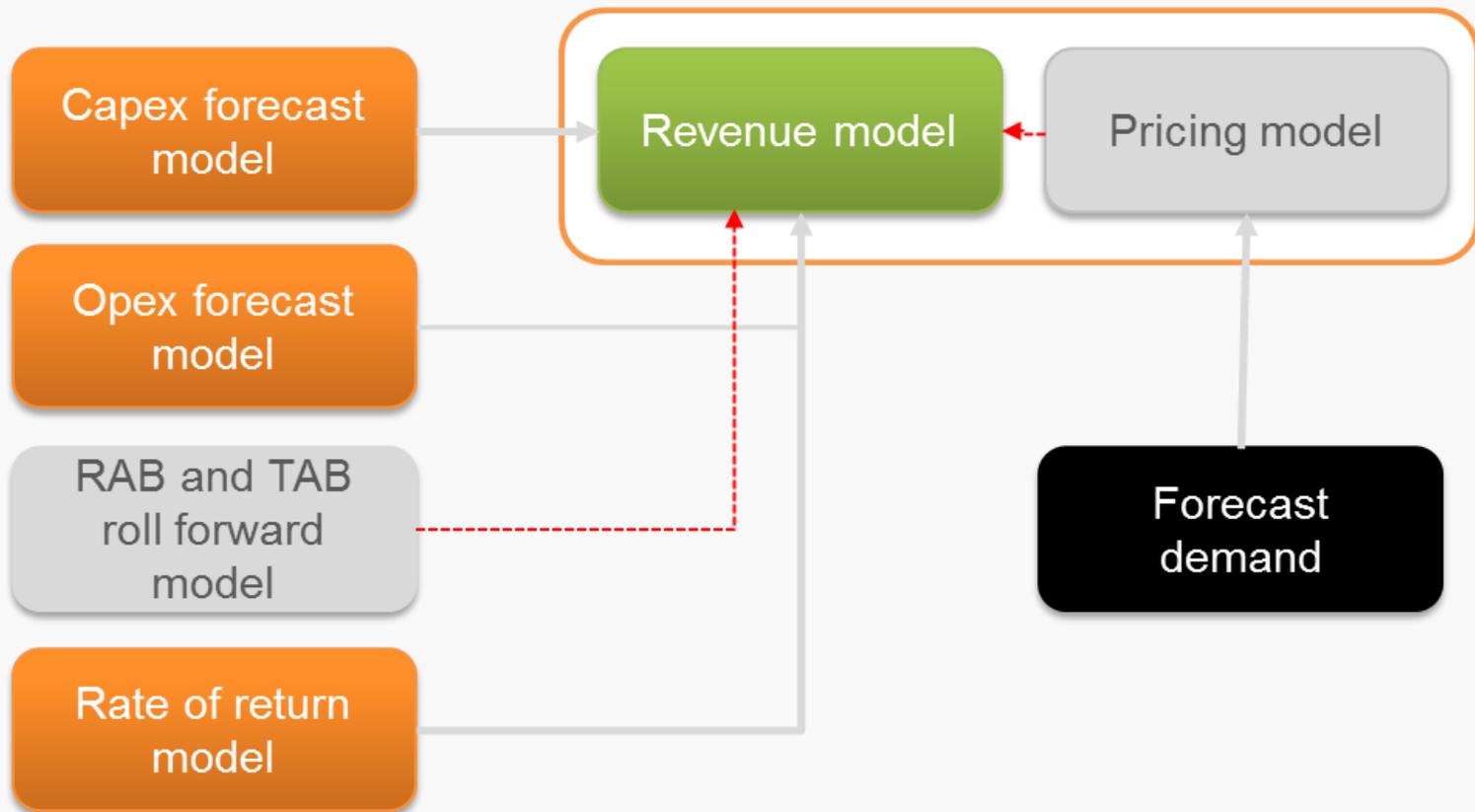


Model map | AA10



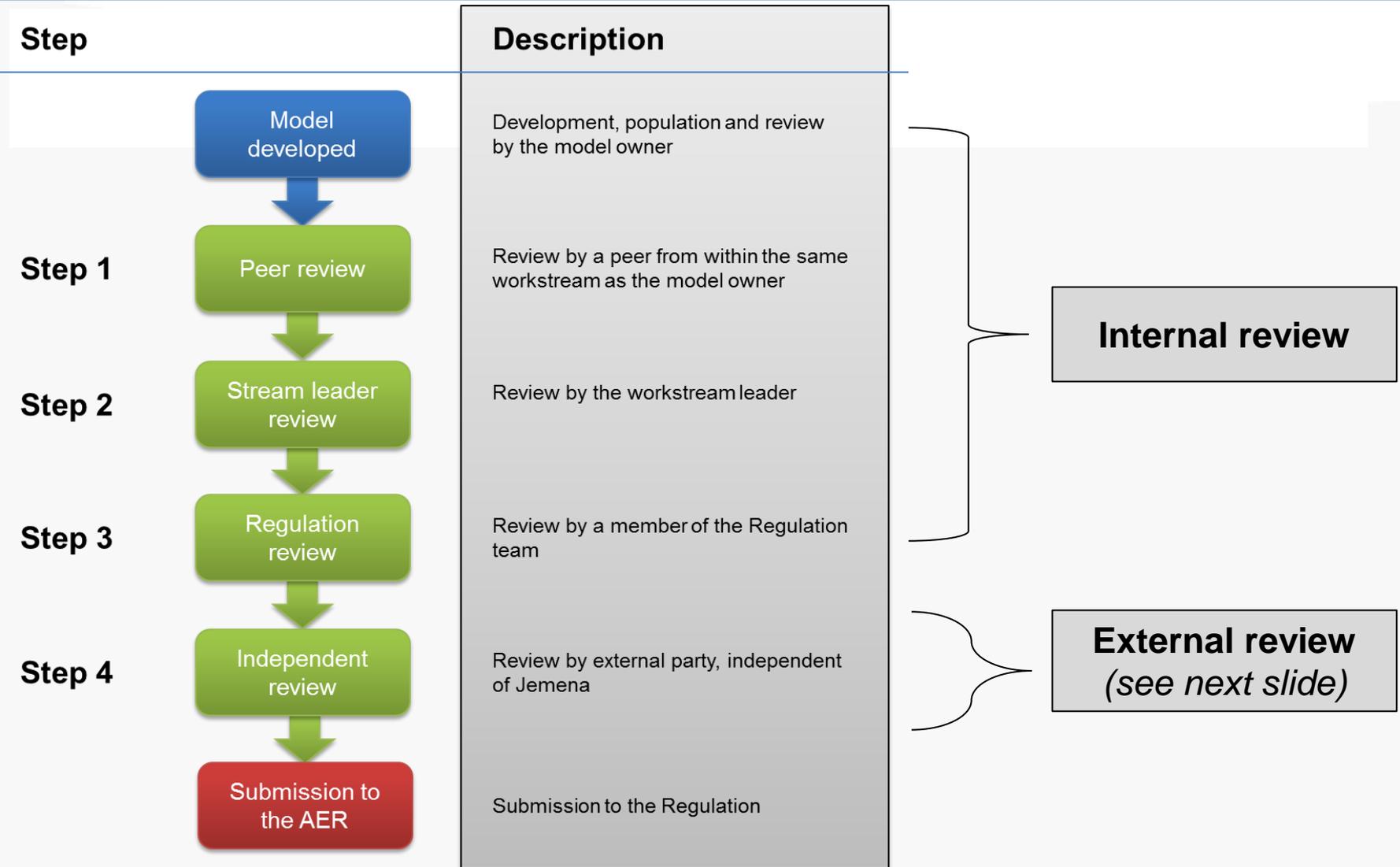


Model map | AA15





Model review (four step process)





External model review – scope of works

- JGN has engaged Economic Consulting Associated (ECA) to undertake an independent review of all submission models (step 4 of the review process).
- The scope of works includes:
 - **Review the models.** Undertake an end-to-end model review in terms of logic, formula consistencies and identify formula errors.
 - **Prepare model diagrams.** Prepare a flow chart in each submission model setting out the purpose of the model, its model structure and the model schematics (e.g. inputs, calculations and outputs).
 - **Prepare a manual for the models.** Include prescriptive texts within the submission models, setting out guidance for the user to understand the purpose of the information.
- JGN has included all ECA recommendations within its submission models.

Questions?



Post lodgement engagement

- Key contacts for queries on our submission:
 - all email correspondence to be sent to aa2015aer@jemena.com.au, with a cc to ana.dijanotic@jemena.com.au
 - where possible, please telephone in advance of sending any email to enable us to respond as soon as possible
 - any queries by phone should be directed to Alex McPherson or Ana Dijanotic in the first instance, or Robert McMillan if Alex or Ana cannot be contacted.
- Jemena would be happy to hold workshops or meetings (either in person or via VC/teleconference) with AER staff as necessary to further explain our AA submission and AA RIN response
 - Ana Dijanotic is Jemena's key point of contact to arrange these meetings
 - Technical staff will be available to respond to any questions, or explain JGN's submission.

Questions?